



Integrated solutions for IBM i


- » Automation
- » EDI- and Data Conversion
- » Communication
- » Signature & Encryption
- » Archiving



» Modular Structure for Perfect Integration in Every Work Environment

The modularly built standard software i-effect® is the only IBM Power Systems solution, which controls the complete workflow and lifecycle of electronic data exchange, independent of sector and server-based and opens new and existing markets.

» FOUNDATION MODULE

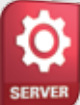


***BASE**

Central control of all modules.
Base module of all i-effect® imple-
mentations. Contains WebControl.

6

» AUTOMATION




***SERVER**

i-effect® workflow automation and
management of other processes
and applications.

12

» HIGH AVAILABILITY



***IASP**

Connection to IBM's high-
avail-ability solution, directly
on IBM i via XSM and IASP.

8


» EDI – CONVERSION



***MAPGUI**

Graphical mapping application
over the eclipse® expansion.


14



***XML**

XML – EDI Mapper, responsible
for processing XML documents.


6



***EDIFACT**

UN/EDIFACT – EDI Mapper,
responsible for processing
UN/EDIFACT documents.


6



***TRADACOMS**

TRADACOMS – EDI Mapper,
responsible for processing
TRADACOMS documents.


6



***DB**

DB – EDI Mapper, responsible
for processing databases like
DB2, MySQL and Oracle.


14



***FLATFILE**

Flatfile EDI Mapper, responsible
for processing Flatfile documents.


6



***X12**

ANSI X.12 – EDI Mapper,
responsible for processing
ANSI X.12 documents.

6

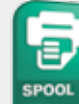


***CSV**

CSV – EDI Mapper, responsible
for processing CSV documents.

6

» DATA – CONVERSION



***SPOOL**

Converts SCS, AFPDS, IPDS, PCL,
AFPDSLIN Spool's into PC formats
such as PDF, XLS, HTML, TIF, GIF,
RTF, TXT, SAV...

24



***SPOOLMAPS**

Report definitions for outputs
in XML, XLS and DB2.


25



***DB2EXPORT**

Direct export from DB2 databases
in CSV, XLS, XML, HTML, PDF.


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***DB2MAPS**

Export definition for XML, XLS
and XLSX. Excel import in DB2.

27



***REPORT**

Modern layout of database reports,
fitted to your corporate design.

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» <http://www.i-effect.com>

» i-effect® – The Integrated Solution for IBM Power Systems

The modularly built standard software i-effect® is the only IBM Power Systems (System i, iSeries, AS/400) solution, which controls the complete workflow and lifecycle of electronic data exchange, sector-independent and server-based and opens new and existing markets.

i-effect® establishes a central communications platform for electronic business communication. i-effect® delivers raw data in the preferred format and sends the business documents via the appropriate channel to colleagues, customers, and business partners from one source.

Free staff and time by automating the processes for the value-adding activities within the company. Grow steadily and securely with fixed module prices.

- » Conduct business with a strong trading partner community. Save money on postage, paper, handling, and toner.
- » Automated processing of business documents.
- » Automated distribution of business data to internal and external machines. Cross-platform.



- » Short response time provides higher degree of service.
- » An open road for connecting to new, strong business partners.
- » No error-causing storage media conversions. No time-consuming proofreading.

» Administration with a Web Interface

The new graphical user interface from i-effect[®] WebControl enables intuitive control, management, and monitoring of the i-effect[®] installation after the modern web 2.0 functionality directly on the IBM Power Systems, which offers a sorted and clear overview of the multi-faceted logbook entries and information regarding sessions, documents, processes, and module and partner master data.

» The Gauge of Profitability and Flexibility

Using the newest EDI standards, the i-effect[®] Solution Suite makes it easy, even for beginners, to convert without error-causing changes in the storage media and at a high level: profit from its flexibility and easy handling.

» Grasp Opportunities, Secure Growth

IT environments are getting smaller, markets and opportunities are growing. The demands on an IT environment's complexity and flexibility are growing at the same time. Conventional software solutions, therefore, reach their limit more quickly and more often than ever before.

The new i-effect[®] Solution Suite offers better performance by using existing hardware more intelligently.

» Intelligent Modular System

As expected, the i-effect[®] Solution Suite is an intelligent, modular system, which customers can tailor to their business' individual needs: EDI or Spool conversion, or simple data compression on the IBM Power Systems. The i-effect[®] module world is multifaceted and unique. Future expansions are integrated quickly and easily.

» High Availability with XSM and iASP

i-effect[®] supports in-house Cross-Site-Mirroring and is completely iASP compatible. iASP is a high availability solution from IBM. It creates a complete mirror i-effect[®] software installation on a second system and enables easy switching/restoration between the two systems.

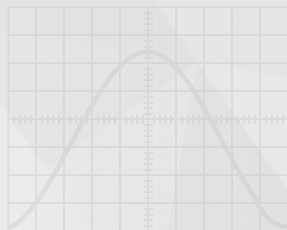
» Added Value in All Areas

The new i-effect[®] Solution Suite offers vital added value in all areas in the smallest detail: more performance, more conversions, more data security, more efficiency, more market opportunities, more ergonomics, more flexibility, more comfort, and finally, more profitability thanks to the performance of the IBM Power Systems.

»» FOUNDATION MODULE

Base module: Central management for seamless technical integration of all i-effect® modules.

***BASE is a prerequisite for all other modules.**



» » *BASE – Central Control of all i-effect® Modules

» » *BASE – The Basis for Stability and Performance



The i-effect® Solution Suite's comprehensive range of services with its unique solution concept offers optimal possibilities for data processing, conversion, communication, as well as auditable archiving on the IBM BladeCenter or IBM Power Systems (System i, AS/400) with IBM i. i-effect® sets new standards of productivity with its integrated handling.

i-effect® users profit from highly flexible data handling on the IBM i and achieve maximum efficiency in process planning. i-effect® is equipped in its basic installation with the most modern components with the highest technical level, which can be expanded as needed with numerous modules.

» » Intelligent Modular System

The i-effect® Solution Suite delivers the most powerful and innovative system available on the market. The new version of i-effect® has been specially designed to be an intelligent, modular system, which customers can tailor to their individual needs: whether for EDI, spool conversion or simple data compression on the IBM Power Systems. The i-effect® module world is multifaceted and unique. Future expansions are integrated quickly and easily.



» » *BASE Functions

- » Base module of all i-effect® implementations
- » Central control of all modules
- » Tracking & tracing
- » Master data management
- » Status and diagnostic messages
- » Detailed protocol on data exchange with each partner
- » Live monitoring of session activities
- » Graphical user interface **WebControl**
- » Graphical installer

» *IASP – The High Availability Connection

» *IASP – Data Replication on Multiple Systems



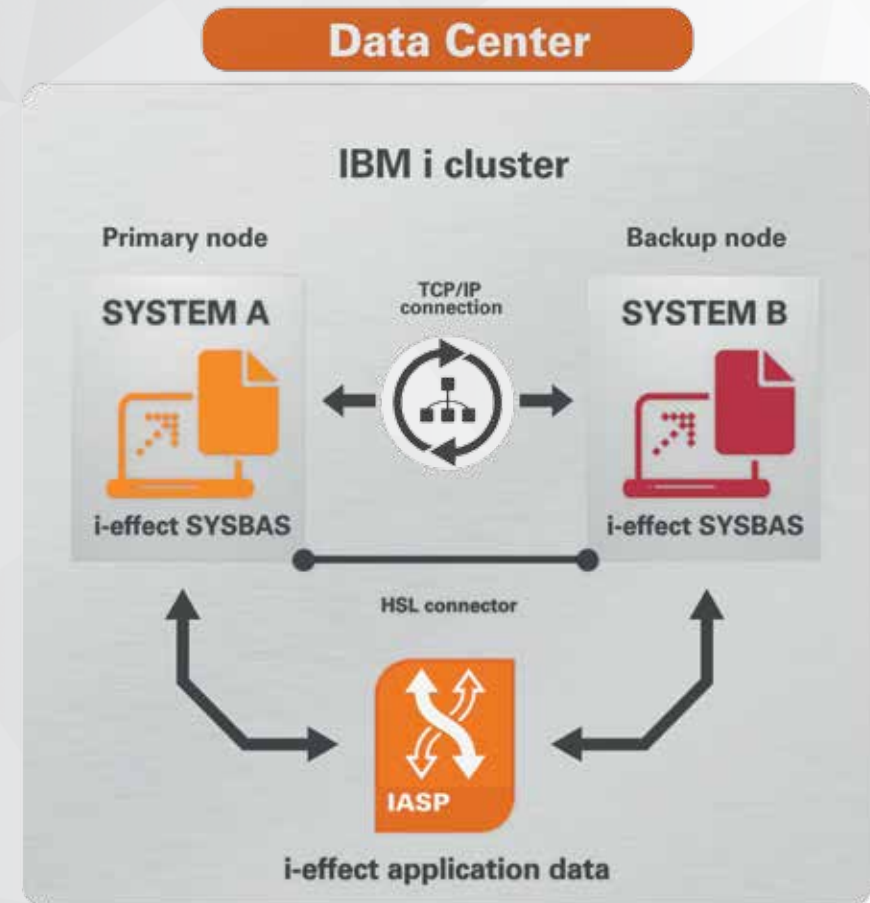
Its now possible, with i-effect®'s *IASP Enablement Module, to use an i-effect® installation on a system with configured iASP (independent auxiliary storage pool). iASP compatible application objects will be automatically placed in the user-defined iASP and can be used to set up a HA (high availability) infrastructure. Along with XSM (cross-site mirroring), IBM's data replication solution, functions can be integrated and data can be replicated on multiple systems.

XSM creates two identical copies of an independent storage pool (iASP) at two different locations to guarantee high availability and disaster recovery. System locations can be close to one another or in two different geographical locations, depending on individual requirements. The image on the primary system is the production copy; the image on the back-up system is an identical copy.

During work with i-effect® the iASP of the primary system is used. XSM copies all changes in the storage pool of the primary system in the order they were made on the secondary system. In case of disaster, a much greater deal of security and availability is guaranteed due to the identical copy on the back-up system.

With IBM i operating system's Cluster Support switches automatically to the back-up system or copy of the independent storage pool. Down time is thus minimized.

Planned switches are also supported. Installation of new application versions for test purposes or recommended testing of back-up availability is possible at the application level with i-effect®.



» Simple Installation on IBM Power Systems

» Installation in 10 Steps

With the development of a convenient, advanced i-effect® Installer, installation of the i-effect® Solution Suite has gotten even easier.

Preparation and execution of the installation is supported by a dialog with clear, concise displays. The new i-effect® Installer runs a complete system test, to check if all system requirements are met.

In 10 easy steps the most important information will be called up, before the software is automatically installed. A progress bar, will then give information regarding the progress and remaining time for the installation process.



» Intelligent Installation Process

- » Installation from any desired JAVA client PC. Access to the data processing center is not required.
- » Dynamic, XML-driven Installation Process
- » Multilanguage user interface
- » Supports new installations, updates, and upgrades
- » Automatic testing of system requirements. Recognition of missing PTFs, license programs, or blocked system objects.
- » Selective module installation
- » Installation of additional modules, during an update/upgrade
- » Selective installation of language packages
- » Installation of additional languages during an update/upgrade
- » Support for iASP installation
- » Detailed logging for access to the complete job protocol of the installation
- » Automatic back-up and restoration with update/upgrade

» Graphical Administration Interface of the i-effect® Solution Suite



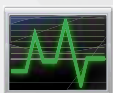
The new graphical user interface from i-effect® WebControl enables intuitive control, management, and monitoring of the i-effect® installation after the modern web 2.0 functionality directly on the IBM Power Systems.

i-effect® WebControl is easy to understand and use. An integrated logbook offers a quick overview of diverse logbook entries regarding session, documents, processes, and partners, while master data management offers quick and easy

configuration of i-effect® software solution.

Individual settings can be set for every user and several i-effect® versions can be managed on one. i-effect® WebControl runs natively on the IBM i using the Zend-Server as well as direct and efficient access to the DB2.

» Status Display and System Monitoring



The web interface offers various displays and diagrams with the most important live information for optimum monitoring of i-effect®.

A system overview displays the i-effect® systems with information regarding current CPU usage, threads, and the number of active and waiting jobs. Colored symbols offer a quick overview of the complete system status and make it easy to recognize job aborts and diagnostic messages. The module overview offers an overview of the status and error rate of existing i-effect® modules and links directly to logbook entries and their corresponding sessions.

A line graph creates a statistical overview of transmitted and received objects, the whole session appearance and all i-effect® program processes. This system information and diagrams can be varied according to time, so that information regarding the current time and longer periods of time can be displayed.

All status displays for live system monitoring can be set for refresh at a user defined time (e.g. every 5 seconds).



» Logbook with Process Tracking and Task Management



Along with the display of sessions, actions, documents and partners, there is a new process tracking, which provides a detailed overview of all i-effect® processing steps within particular operations.

The multifaceted filter and search functions help the administrator find the relevant entries and see individual activities and objects clearly by using links within the logbook.

User definable columns and sorting offer a wide range of display options of the program interface. Incomplete sessions are automatically stored as tasks, and it is possible to mark every further session as a task. User comments offer quick and easy access to important information from entries in Task Management. With i-effect® WebControl, commands can be run directly from a browser and their parameters can be edited with a convenient mask.

The document view can display and save existing data and archive files by clicking on them, while process tracking displays the individual processing steps (e.g. reception, conversion, archiving). The partner view, however, lists all the processes in groups according to partners. It also shows information on the time and type of the last activity, that links directly to the corresponding documents, sessions, and processes.



System: abc123 - i-effect: V3X3H4 - Serial number: 0687777 - Partition: 02 (DMC3) - Table: 1F58HAA0

Server

Dashboard
Logbook
Master Data
Configuration
Automation
Spooled Files
Settings
Gilbarco Blackbox
Custom Links
Online Help

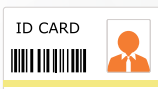
Server

Filter settings Columns Create entry Help

Search 76 Total entries, displayed from 1 to 15 15

Job Number	Type of Source Files	Processing Type	Description	Held Status	Last
1	*NONE	*SINGLE	Vergleichen mit WebControl	*YES	Wait
2	*IFS	*SINGLE	Convert edifact/in*edi -> DB2	*YES	Wait
3	*NONE	*SINGLE	WebControl2 Export ZendServer 6 - Michael Linden	*NO	Wait
4	*NONE	*SINGLE	WebControl Export von Michael Linden ZendServer 6	*YES	Hold
5	*NONE	*SINGLE	WebControl Export von Michael Linden	*YES	Hold
6	*NONE	*SINGLE	Test new server a emvans	*YES	Hold
7	*SPOOL	*MONITOR		*YES	Wait
8	*SPOOL	*SCHEDULE		*YES	Hold
9	*NONE	*SINGLE	WebControl2 Export ZendServer 5.6 - Michael Linden	*NO	Wait
10	*NONE	*SINGLE	Christoph - Journal an Tabellen anhängen	*YES	Wait
11	*DB2	*SINGLE	test *SCHEDULE	*YES	Wait
12	*IFS	*MONITOR	Convert edifact/in*edi -> DB2	*YES	Wait
13	*SPOOL	*MONITOR	DEHO: Spool	*NO	Wait

» Individual Settings



i-effect® WebControl offers comprehensive, user-specific settings.

Basic settings as well as user-defined quick links, preferred languages, individual starting pages, and the required i-effect® Version can be configured in a clear menu.

» Platform and Device Independent

i-effect® WebControl supports many internet browsers including Internet Explorer and Mozilla Firefox. i-effect® WebControl is completely web-based and therefore platform-independent. It is not necessary to install browser plug-ins or similar programs on the client, only JavaScript is required. This enables use in many different environments, for example on internet-capable devices and internet tablets.

Individual filters for every page and for specific data selection can be saved and loaded. Settings for fields, sorting, status displays, and others are automatically saved and loaded after the next login.

All settings are saved centrally within i-effect® and can be saved and restored using the interface.

Print Versions

All print versions on the system can be called up with their own view. This will display all i-effect® print versions or the ones of a selected user.

Print versions can be held, released, and rerun with a selectable server entry. In addition, they can be exported in many file formats directly from a browser.

» WebControl Functions

Graphical Interface for Management, Control, and Monitoring of i-effect®

Features

- » Multi-lingual (German, English)
- » Multi-version
- » Multi-user (User ID)
- » Individual settings for every user
- » Auto refresh of status displays and logbook (configurable intervals)
- » Search functions and filters
- » File export in many formats

System requirements:

- » i-effect® Version 2.3 or higher
- » ZendServer Community Edition (CE) for IBM i Version 6.1 or higher. (PHP Version 5.3.x)
- » EasyCom for PHP – AURA equipments Version 4.0.0.21 or higher

System overview including:

- » Clearly structured diagrams with important live information on the i-effect® system
- » Status and CPU usage of i-effect® subsystems with information on active and pending threads and jobs
- » Real-time module overview with direct links to current diagnostic and error reports
- » Fast recognition of job aborts, crash downs or failures; display of the percentage error rate
- » Status display for current objects und sessions within a freely definable period of time

»» AUTOMATION

Central workflow control for all business processes - not only for i-effect®, but also for IBM i and Power Systems processes.



» *SERVER – Increase the Efficiency of your IT Environment



» *SERVER - Complete Automation



Not only products, but also processes must be updated constantly. With the supplemental module, i-effect® *SERVER, you can automate your entire i-effect® – functions or selected working processes – according to a selected schedule or after selected IBM Power Systems (System i, iSeries, AS/400) events. Output queues can be monitored and spooled files can be converted or sent via email when new print versions arrive.

Automation helps processing workflow in compliance with regulations (i.e. digitally signed invoices), the service level of business processes is kept up even in case of personell shortage and the workflow efficiency will stay the same or will increase in consideration of decreasing budgets.

» Process Control for Legal Regulations

Optimal automation of processes not only reduces costs, but also increases efficiency. Monotonous and reoccurring tasks are executed flawlessly.

Automated IT systems work around the clock and increase profitability. i-effect® *SERVER, which encompasses hundreds of elements, manages and organizes your processes perfectly. Long waiting periods and piled up tasks are things of the past. i-effect® *SERVER works through the most complex processes quickly and efficiently. Open up free space for your IT employees, maximize process security. And reduce the margin of error.

Legal regulations are easily integrated into the workflow (e.g. mass signature for invoices), the service level of business processes is maintained even with personnel shortages, higher yields despite unchanging or even shrinking budgets.

» Reduced Costs, Improved Quality through Automation

- » Digitalized workflow reduces the running time of business processes
- » Quick treatment and set-up of new processes
- » Maximizes process security
- » Reduces the total number of processing steps
- » Reduces the margin of rror
- » Reliable with complex workflows
- » Transactions costs within a processing step are reduced
- » Switching from manual to digital process increases quality, because manual data entry is error prone
- » Automation increases the flexibility of operating departments to change processes
- » Digital processes can be managed by a monitor, which provides information that can be used to optimize processes even more. The number of unsuccessful processes is reduced

» *SERVER Functions

- » Event- or time-controlled automation
- » Monitoring of IFS directories, DB/2 libraries, output queues
- » Process workflow configuration using predefined event-driven processes
- » User-defined processing steps can be implemented in the entire server process at defined (exit programs)
- » Reorganisation of logbook files
- » Conditional readjustment of processing steps

»» EDI – CONVERSION

Create flawless and efficient data mappings in every conceivable way and freely enter new markets.



» Move on with EDI and Data Integration

Communication between companies almost always takes place electronically – especially when it comes to business processes.

EDI (Electronic Data Interchange) is the exchange of structured business information between business partners using an internationally recognized and standardized form with modern communications methods.

The main advantage is that data can be sent from one computer to another quickly, effectively, internationally. Control of business processes is made much easier, because EDI information — business data — is exchanged automatically between applications (e.g. ERP systems) without manual intervention from employees. This saves time in data preparation and entry, as well as inspection of data and storage media conversion. Direct transmission from one application to another secures integration of the data as well as automatic processing of the information.

An EDI system secures a quick ROI, increases productivity noticeably, saves resources by saving on paper, postage, and fax costs as well taking away the need for manual processing. Another effect is the unrestricted opening of new markets due to an internationally accepted standard and easy connectivity to new customers and trading partners. Experience shows: Due to the reduction in cost, companies prefer suppliers and trading partners who use EDI systems.

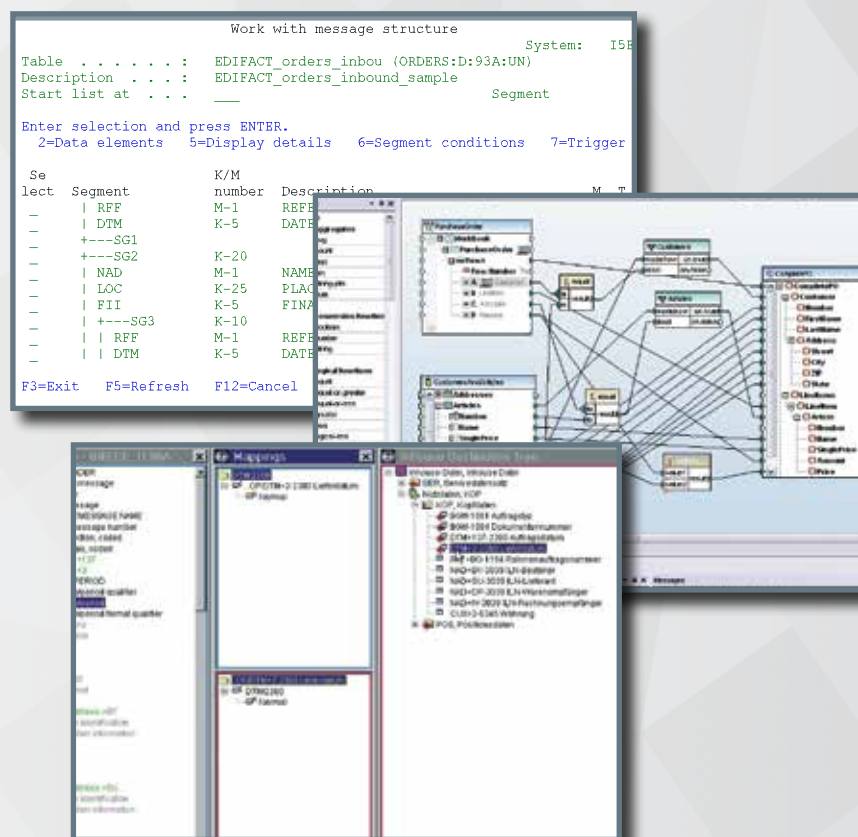


Operational safety, reliability, and performance
– the reasons for IBM Power Systems.

» Yesterday's EDI Mapping

To create EDI mappings, you need well trained employees who are able to create data mappings using the non-user-friendly green screen.

Delays and errors occur frequently, because the process cannot be clearly viewed and the many different levels require more adjustments and corrections later. Current graphical aids often complicate the process by being unclear and difficult to use.



» EDI Mapping Today

Evolutionary EDI Mapping

With i-effect® *MAPGUI it is now possible to create data mappings on the IBM Power Systems simply and efficiently with a graphical interface.

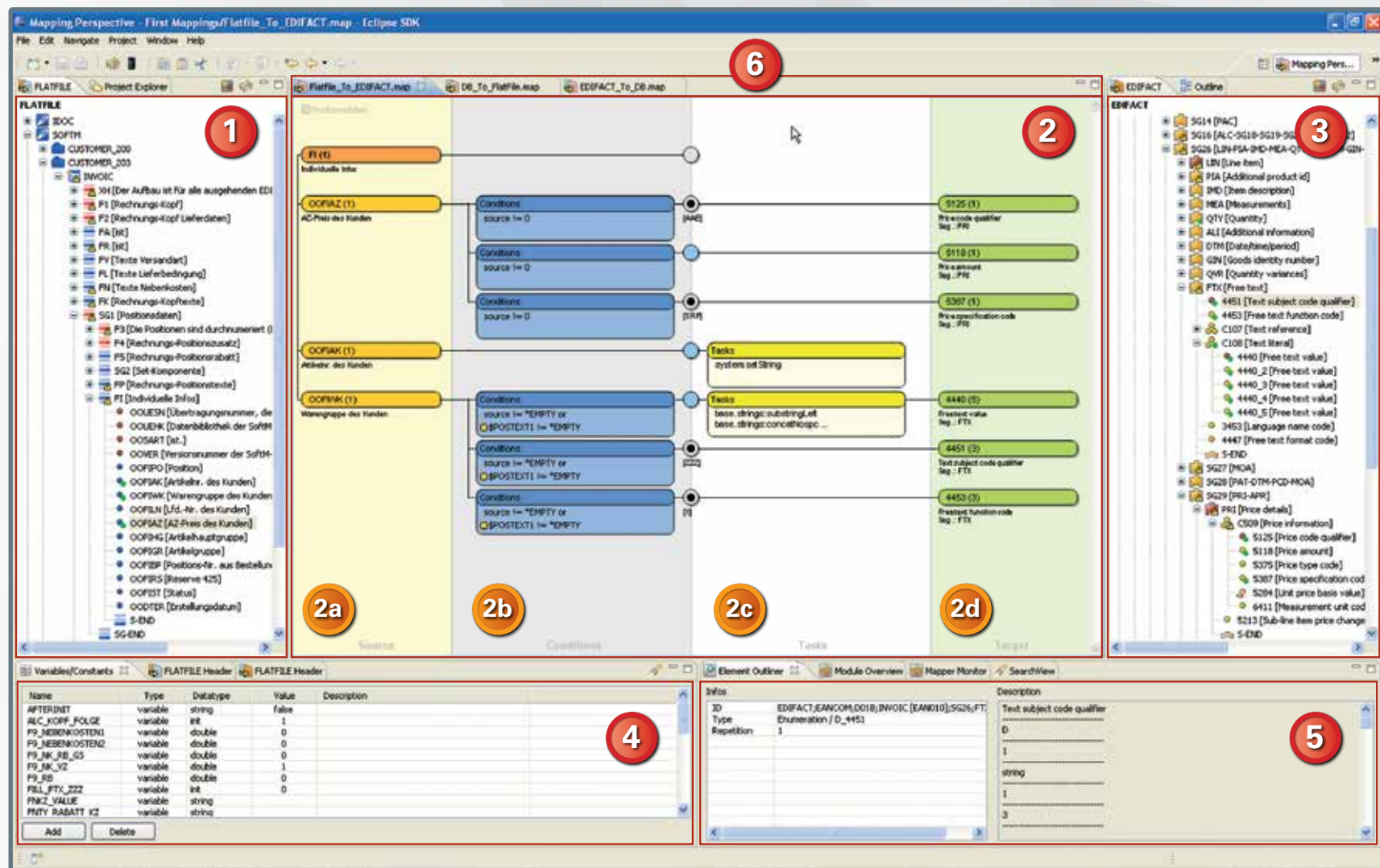
The new i-effect® Solution Suite, with its graphical interface, sets a new standard for use of IBM Power Systems (System i, iSeries, AS/400): Not only its technical highlights but also its multifaceted functionality with the newest techniques help to simplify the data mapping process.

Optimal Ease of Use with All Information at a Glance

The self-explanatory and intuitive user interface gives IT employees a familiar working environment. It is now possible for IT employees to review mapping processes in a source and target view. Conditions and tasks of a mapping are displayed graphically, including the description and properties of each individual element, which creates a unique overview and lowers the number of errors. With the integrated map-tabbing function, more than one mapping can be opened, processed, or compared at the same time.

Drag&Drop Mapping

Drop&Drag mapping simplifies the training of new employees, because programming skills are no longer necessary, which reduces IT costs and makes you more competitive.



1 Source Module

2b Conditions Area

3 Target Module

6 Map Tabbing

2 Editor

2c Tasks Area

4 Defined Variables

5

2a Source Area

2d Target Area

5 Detailed Information

» EDI Mapping with i-effect®

» Each Mapping is Unique

This rule is irrefutable. i-effect® *MAPGUI was constructed so that tools (Usertasks) utilizing Java-Codes can easily be integrated into mappings.

Adjustments to fit with company specific changes can be made at any time.

» Future Security and Investment Protection

i-effect® *MAPGUI is a plug-in for the open-source client software eclipse®, which runs platform-independent on any Java-capable operating system.

The client software runs on the Java-capable console and data mappings or corrections can be done in real time on the server without having to install large data libraries.



» Real-time Communication

i-effect® *MAPGUI communicates directly with your IBM Power Systems. The 3 tier architecture makes this one-of-a-kind process possible.

The client console requires minimal performance and band-width because all operations (business logic and database connectivity) are run directly on the IBM Power Systems.

» Productivity Enhancement

Time-consuming mappings are a thing of the past. Discover the cost- and time-saving advantages of i-effect® *MAPGUI. The eclipse® plug-in i-effect® *MAPGUI is based on long-term EDI sector experience. It has many functions to make mapping easier.

Mapping tools are divided into system and module as well as basic tasks, which contain tasks that occur regularly within a mapping process, e.g. mathematical calculations.

Any2Any

Any2Any – Map data in any imaginable combination between EDIFACT (with all Subsets), XML, FlatFile (SAP iDoc), CSV, ANSI X.12, TRADACOMS or databases (DB2, MySQL,

MSSQL, Oracle) without limits and in an automated environment. This maximizes productivity and provides faster and more effective processing.

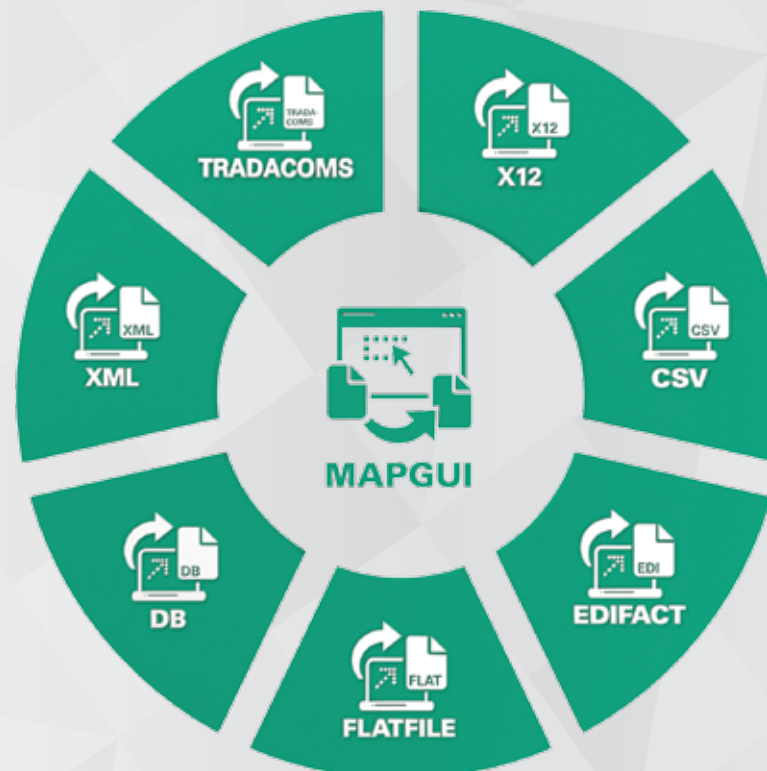


» ***EDIFACT** is a multi-sector international standard for electronic data formats in business transactions used by more than 300,000 companies worldwide.

» ***FLATFILE** is a structured text file and enables the exchange of structured business data. Many ERP systems such as COMARCH and OXAION use these flat structure files.

» ***DB** – Databases store business data in structured form and enable the display of complex structures and correlations. Business data can be processed by access to one of the rational database systems, e.g. DB2, MySQL, MSSQL or ORACLE.

» ***TRADACOMS** – (Trading Data Communications Standard) messages are widely used in Great Britain in the consumer goods and food sectors. The standard (based on the UN/EDIFACT syntax) covers 26 different message types.



» ***X12** – ANSI X.12 is the official, multi-sector EDI standard in the USA. More than 315 different and standardized messages types are employed in almost every sector: commerce, banks, insurances, administration, logistics and companies as well as the health sector.

» ***CSV** is a simple text file format used to exchange data between different systems. It is usually limited to displaying simple data structures. CSV files are used to display tables or a list including lists of different lengths.

» ***IDOC** is an SAP standard format for electronic data exchange between different systems. In SAP R/3, for example, sales request are recorded and shipments generated. Shipments will be sent to the remote system via iDocs.

» ***XML** – Easy handling as well as its support of object-oriented and uniform processing methods make XML attractive for many users. XML not only can transport data for automatic processing but can also be used by interactive applications like WebEDI.

» The Advantages of an EDI System

- » High customer approval because of paper reduction
- » No infrastructure investment required
- » Massive savings because of low operating costs
- » Immediate processing of invoices offers discount possibilities
- » Faster business processes
- » No more manual processes e.g. collection of incoming invoices
- » Cost reduction in paper, toner, postage, and handling
- » Less errors because of optimized processes
- » Avoids conversion of storage media
- » Lower waiting and holding time of documents
- » Shorter cycle time
- » Multilevel data conversion (ANY2ANY)

» Discover the Potential of Paperless Data Transmission for:

- » Billing
- » Orders and order conformation
- » Packing lists, delivery notices, inventory lists
- » CAD
- » Quality control journals
- » Documentation
- » Production, laboratory, and test reports
- » Check lists
- » And many more



» i-effect® – More than just EDI



EDI – In practice, EDI normally means high management costs. Almost every partner uses different data formats and structures for electronic order and delivery transactions.

The complexity of so many EDI formats and high training and operating costs kept companies with a smaller budget from using EDI. i-effect® not only converts IBM i data into PC formats and PDF, but also converts database and ERP files into every desired EDI format.

i-effect® supports IBM i users in consolidating a heterogeneous communications structure and an EDI structure suited to their needs. EDI users take advantage of scalable EDI volumes: the number of trading partners and data transmission volumes are unlimited while the price remains the same.

» EDI – Conversion

*EDIFACT

- » All EDIFACT message types
- » All subsets

*FLATFILE

- » All flat files
- » ERP connection e.g. SAP IDOC

*DB

- » DB <> ANY conversion
- » Connections to DB2-, MySQL- and Oracle databases
- » Commitment control (Rollback) for unbroken transactions in DB2 tables in event of aborted conversion

Further EDI Modules

- » *XML
- » *CSV
- » *IDOC
- » *X12
- » *TRADACOMS

Conversion

- » Any2Any concept
- » Choose any input or output file from the IFS or DB2
- » Flexible mappings and directories
- » Modul-based expansion concept (EDIFACT, FLAT-FILE, XML, X.12, CSV, IDOC, TRADACOMS, DB2, MySQL, Oracle ...)
- » Content-based interfaces
- » RMI server and JOB server based on Power Systems
- » Platform-independent graphical mapping client (eclipse®)
- » RUNMAP command as the start basis for mapping progress
- » Integration of the i-effect® logbook for optimal monitoring of mapping processes
- » Error correction and expand logging
- » Integration of partner core data
- » Own sub-system on the IBM Power Systems

Graphical Interface

- » Any modules in the source and target view (Any2Any mapping)
- » Mapping conditions to control value assignments on the target page
- » Mapping tasks (system, base, module, user) for value processing, formatting and variable assignment which allow the use of functions (mathematical, date, time, string)
- » Mapping trigger for precise control of mapping processes
- » Mapping variables as clipboard for values
- » Creation of guidelines (Mapping as PDF print)
- » Individual module configuration with the graphic front end

Communication and Control

- » Any data volume, unlimited number of trading partners
- » Constant monitoring of background processes with the integrated logbook
- » Standardized message monitoring

Master Data

- » Central master data maintenance
- » Maintenance of sender and recipient information with the central partner core
- » Any number of communications paths per partner
- » Unlimited number of sender addresses for partner aliases
- » EDIFACT- and flat-file-based partner settings
- » IFS archiving of input and output files in separate directories

Mapping

- » Unlimited number of mappings: based on partner master data, conditionally, XML-based
- » Unlimited number of database input and output objects (SQL-tables, phys. and log. files)
- » Dynamic reading and writing of database records
- » All database field formats
- » Output of constants

»» DATA – CONVERSION

Rapid DB2 data export directly into Office and Excel formats. Spool conversion with the technological world market leader.



» Shape up your Reports with *REPORT



» *REPORT – Print How You Like It

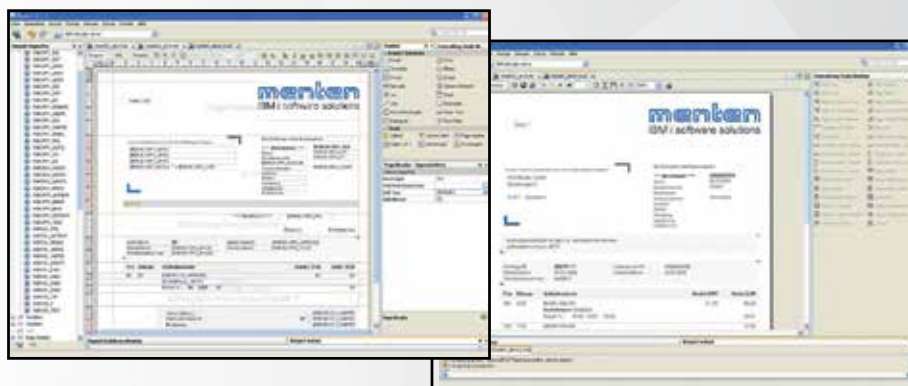


With i-effect® *REPORT you can create and design your reports by using a graphical interface right on your desktop PC. The graphical report designer, i-effect® *REPORT, provides you with a fast and intuitive creation, editing, and modifying of print layouts from your desktop PC.

The database of your IBM i provides the necessary data. Combine and position your data on the designed form.

With just a few clicks you can design your own form layout with text, images, and graphics.

Some reports need to be worked up more thoroughly, visually appealing and ready for print. You can use the graphical report designer's extensive possibilities to create barcodes, graphics, charts, and interlaced lists.



JasperSoft-Studio meets even the most demanding reporting requirements, such as the creation of print-ready versions with pixel-perfect positioning of all report elements, as well as the preparation of complex reports with several components and multiple data sources.

This does not mean, that iReport needs additional server resources or any special IT programs. iReport is a 100% Java client application, flexible enough to fit seamlessly into any software environment.

» Highlights

- » Open source GUI client
- » Platform-independent; reports can be run on other systems
- » No programming of printing programs required
- » Spools the print edition in OUTQs (PDF direct print)

» *REPORT Functions

Output

- » PDF, HTML, XML, (XHTML, XLS, RTF, DOCX, Text, CSV, Open Office, PNG 2.2 and higher)
- » Parameters passed by commands

OpenSource Client

- » JasperSoft-Studio = free open source Java-based report generator (GUI)

Functions

- » Variables for sum, average, count, minimum, maximum, and user-defined calculations
- » Any group levels and sub-reports
- » Customizable pages and column formats
- » Extensive charts (pie, pie3D, columns, pillars 3D, line, Gantt, etc.)

- » Graphic elements such as frames, lines, rectangles, circles, ellipses
- » Extensive barcode library (EAN, CODE39, data matrix and more)

JasperReports Server

- » IBM i specific implementation of JasperReports
- » Native command interface RUNREPORT
- » Full integration with i-effect®
- » SQL database connection
- » Report definition in XML
- » Native report server integration of menten for IBM i (OS/400, i5/OS)
- » GUI Designer iReport
- » Open source print engine JasperReports

» Spool Conversion with the Technological World Market Leader

» SPOOL – Conversion with Multi-format Support

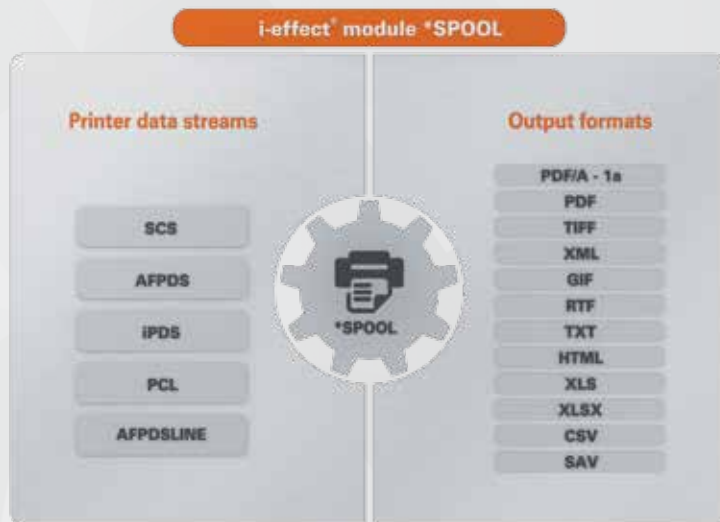


Spool file conversion is an essential part of data integration on the IBM Power Systems.

While archived files on other systems usually can be processed easily, spooled files are available in a proprietary data stream format. Originally developed for print on IBM printers, spooled files can also be converted into PC output formats to integrate IBM i data into business workflow and electronic document management.

i-effect® converts all IBM data streams (SCS, AFPDS, IPDS, AFPDSLIN, PCL). Using i-effect®'s Spool Converter, you can target the delivery of your spooled files for further processing of your business data:

i-effect® Spool Converter supports all common Office formats such as PDF, XLS, CSV, HTML, HTXT, TIFF, GIF, RTF, TXT, and SAV. i-effect® converts into real, editable PDF (not a PDF image) and offers a wide range of formatting functions, for example embedding of fonts, barcodes, graphics, as well as multifaceted design options for color, text, and page rotation.



Spool Archiving and Distribution

Use spool data conversion for internal company processes and with cross-platform data exchange to save money. Distribute your spooled files or converted spooled files by combining i-effect® *SPOOL with the corresponding i-effect® communications modules (*FAX, *EMAIL, *FTP, *OFTP, *TELEBOX, *HTTP, *AS2). By compressing spooled files with the *ZIP module, you can store IBM i files in ZIP archives and send them to external computers for further processing. All i-effect® processes can be automated with the supplemental module *SERVER or controlled by using the menu.

Archiving and Document Management

i-effect® makes it possible to create, using data on the IBM i, the legally compliant PDF/A (1a) and to archive them, long term, in a read-only auditable format in i-effect® *INFOSTORE. In this way, data conversion into PDF/A can now be automated. The documents can be catalogued for full-text searches, digitally signed with the i-effect® module *SIGG, and then archived.

PDF/A – The New Format for Long-Term Archiving

The archiving period of up to 30 years and the technical and organizational challenges require a complex and traceable document integration process. This issue remains a problem, especially for small and mid-sized companies.



Because it fulfils the ISO standard 19005-1, i-effect® specifies the highest level of conformity, namely level A (PDF/A-1a). For the first time users can convert print data into the space saving PDF/A format and send them or archive them securely.

An obvious advantage of a PDF/A archive over a classical one like TIFF or JPEG2000 scan lies in its small file size and the possibility of an efficient full-text search within the entire archive. In addition, i-effect® can sign data with a qualified digital signature and subsequently save it with a test report in the archive.

» Export Semantic Spool Content in Excel and XML

» *SPOOLMAPS – Design Excel Sheets or XML Files



When converting spooled files into formats like PDF, the appearance of the document as well as fonts, font size, and the positioning of text and graphical elements on the page are very important.

The spooled file itself contains all the information that i-effect® requires, in order to convert the spooled file to a PDF that looks exactly like the paper document.

When converting a spooled file into other file formats, especially Excel and XML, the appearance of the document is less important than its semantic content, its information or its structure. Unfortunately, spooled files usually have either very little or no metadata at all, so as a consequence they can't help i-effect® with conversion.

By using *SPOOLMAPS you can now reliably manage this information in order to create the best Excel output and usable XML files. Report definitions and report mappings are created to accomplish this.

A report definition defines the structure and contents of a spooled file.

It describes the various elements of a report:

- » Report lines specify the various lines that occur in a report
- » Report items specify the location and format of data items
- » Report sections specify the relationship between the various report lines

A report mapping defines the structure and content of a stream file produced by i-effect® and maps the items defined in a report definition to their desired place in the file.

There are currently two types of report mapping:

- » Report-to-Excel mappings describe Excel output
- » Report-to-Excel mappings describe XML output

» *SPOOL Functions

The i-effect® *SPOOL module gives you 136 parameters for spool data conversion.

Conversion

- » Input SCS, AFPDS, IPDS, PCL, AFPDSLINE
- » Output PDF, TIFF, XML, GIF, RTF, TXT, HTML, XLS, XLSX, CSV, SAV
- » Output in auditable PDF/A format (PDF/A-1a)
- » Save and restore in data stream files
- » DBCS conversion options

- » Output in the IFS and DB2 file systems
- » Control of PDF-Direct-capable printers
- » Converts all barcodes and graphics
- » Preprocessing of archive systems

Formatting

- » Embed external logos and graphics
- » Spool splitting
- » Exclude spool sections from

conversion down to the exact page

- » Page setup, (auto-)rotation, page adaptations, embedded fonts, editing fonts, PDF password, etc.
- » PDF bookmarks and display options
- » Indexing
- » Writes index extracted from spooled files into database
- » Excel columns and row options

- » User definable processing steps
- » Bookmarks with up to 50 levels of submenus
- » Perfectly embeds JPEG and GIF

Menu-guided Spool Administration

- » Duplicating, deleting, sorting, selecting of spooled file entries
- » Easy search and query option

The PDF/A conversion, PCL, and AFPDSLINE functions, as well as PDF-Direct print are parts of the *SPOOL expansion *SPOOL+.

» DB2EXPORT – DB2 Data Export with a Wide Range of Supported Formats

» *DB2EXPORT – DB2 Directly Into and From Excel



i-effect® *DB2EXPORT is a native IBM i application for direct DB2 data export into spreadsheet formats (XML, XLS, CSV, HTML, TXT und PDF) on IBM Power System. It sends your employees any report at any time and for every defined event straight into their inboxes using push technology. The PC output files possess the full range of formatting and functional features.



Conventional software converts DB2 files into spooled files before passing them on to the output queue for further format conversion or printing. Due to the flat text format of the spooled file, the tabular structure of DB2 files is lost through conversion and has to be re-built afterwards in order to allow further processing. A query license program must be installed on the system for this process (e.g. IBM DB2 Web Query for IBM i).

A special feature of i-effect®'s *DB2EXPORT is the direct conversion from DB2 into XML, Excel XLS, CSV, HTML, TXT and PDF using push technology. A database query can be processed in equal measure using a predefined file name, query, or SQL statement.

Excel files can now be directly imported into DB2. You can re-call and re-run all i-effect® *DB2EXPORT calls from the i-effect® logbook, even predefined/ stored and SQL queries can be reused.

» *DB2EXPORT Functions

Features

- » Direct DB2 export into output formats XML, XLS, XLSX, CSV, HTML, TXT, PDF, PDF/A
- » Export based upon push technology, without manual user intervention
- » SQL-based Push Technology
- » Excel Biff 8 (compatible with Excel 97 and higher) or BIFF 5 (compatible with Excel 5 and higher)

- » Converted data stream files can be placed in the IFS; seamless transfer on the IBM Power Systems itself (storage in root or in QDLS file system), on Windows server (usage of QNTC files system) or on another iSeries (usage of QFileSvr.400 file system)

Formatting

- » Time, date and currency format
- » Field specification (worksheet name, title, subject, author, keywords, category, comments etc.)
- » Inclusion and exclusion of fields
- » Sorting fields
- » Field delimiter
- » String delimiter
- » Record delimiter
- » Decimal point character
- » Table specifications (table caption, header, columns, rows,

cell spacing and padding, etc.)

- » Sort specifications, query selection

Input Sources

- » physical DB2 files (file name/ library)
- » logical DB2 files (file name/ library)
- » Query/400 queries
- » Query management (QM/400) queries
- » interactive SQL query statements

- » SQL query statements stored in a source file member
- » No additional expenditure of time through data transfer and ODBC query statements
- Call i-effect® tasks from existing (batch-processing) application using iSeries commands in a CL program
- Direct Excel import into DB2

»» Effective Data Preparation and Integration

»» *DB2MAPS – Design Excel Sheets or XML Files



Exportation of DB2 database contents into Excel formats has long been an integral part of an i-effect® installation and one can't imagine a work day without it. The exported DB2 data structure is transmitted and stored exactly.

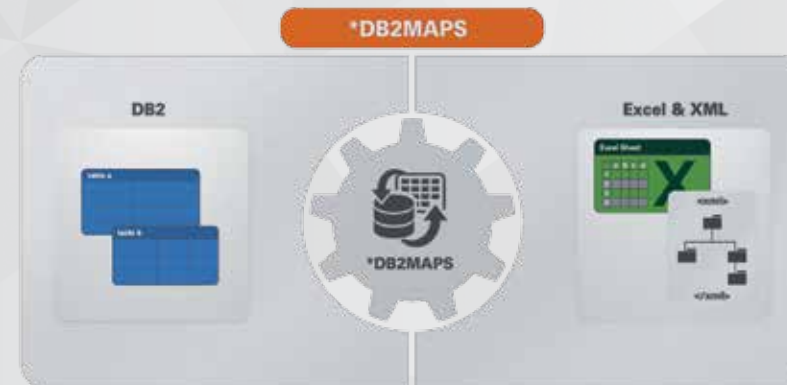
You can use the new i-effect® *DB2MAPS module not only to export DB2 database contents, but also to translate them into a custom Excel or XML file structure or format, according to mapping rules. These freely definable database mappings can be used to separate database fields into various columns and rows, as well as headlines, sub headlines, subtotals etc. Likewise, i-effect® *DB2MAPS can export database exports into nested items and attributes of an XML file.

User-defined Style

When converting to Excel, XML, and HTML formats, user defined styles can be used. Styles, which can be stored permanently on the system, can be applied to individual data fields and also specific data groups (headings, titles etc.). Styles contain attributes that determine the visual appearance such as font color, font, and background color. In addition, field attributes are also determined by styles, so that the column width can be set and numerical or alphanumeric fields are correctly formatted. In particular, date and time data, and also currency and number formats can be individually defined and applied.

Conditional Formatting

Conditional formatting offers a further possibility of content dependent formatting and dynamic creation of visual appearance. By specifying rules for formatting, it is possible to render all the negative numerical values in a column red and all headings in bold print. Even changes of font and color can be defined depending on the existing data.



Elimination of Errors and Employee Motivation

Push technology is another unique selling point of *DB2MAPS and *DBEXPORT: Users will find database information completely processed report and are free from error-prone, monotonous, routine database queries.

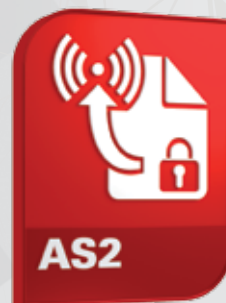
Because PC-initiated imports are no longer needed, members of specialists departments such as production, sales, customer relation etc. are no longer dependent on the IT department.

Employees are motivated to better productivity by the convenient delivery of information. The profitability of current data is not lost because of delayed data delivery.

Direct import of Excel files into DB2

» COMMUNICATION

Secure and standardized communication channels for effective data exchange on IBM Power Systems and IBM i.



» » *TELEBOX – Reliable Worldwide Data Exchange



» » *TELEBOX – Store-and-forward with X.400



Telebox is a mailbox system of T-Systems. Formerly known as Telebox 400, BusinessMail X.400 is part of a Value Added Network, which – in addition to the internet – provides a secure and stable messaging system.

BusinessMail X.400 is based on the X.400 standard, which ensures reliable, electronic exchange of sensitive business data within a worldwide communications network. The VAN (Value Added Network) service is based on the store-and-forward system: incoming and outgoing EDI messages are stored and retrieved in and from a mailbox.

i-effect® *TELEBOX is a native IBM Power Systems connector with which you can transmit your business data between X.400 systems using the BusinessMail X.400 service of T-Systems. In combination with the EDI-converter, *EDIFACT, i-effect® *TELEBOX offers the communications component for your complete EDI solution on IBM Power Systems. *TELEBOX can also be combined with other i-effect® modules.

There are several ways to access the Telebox (telephone network, modem, ISDN, Datex-P). Select the type of access required for your individual needs or existing installations. As a sales partner of T-Systems, we can offer you assistance any time. Place your order with us, and we'll provide you with BusinessMail X.400.

AS2 Gateway

Telebox users save big by transferring their data using the AS2 Gateway of T-Systems. EDI messages are still transmitted to the same X.400 addresses of their partners; No configurations must be made on the partner's side. Trading partners can transfer their data without having access to the AS2 Gateway as before. The data is routed through the AS2 Gateway to the new AS2 Port.

i-effect® *AS2 is the native IBM i application for data transfer via EDI-INT AS2. The highly integrated modules *TELEBOX and *AS2 can also be combined.

As business partner of T-Systems, we will help you set up your AS2 Gateway.

» » *TELEBOX Functions

Functions can be controlled using the menu or can be completely automated by the *SERVER module.

» Logbook (Detailed protocol regarding all activities)

- » Point-to-multiple-point transfer
- » Automatic restart in case of transmission cut-off

» *AS2 – The Safe Information Highway for Effective Exchange of EDI

» *AS2 – EDI over Internet



i-effect® *AS2 is the native solution for communication via AS2 on IBM Power Systems. The i-effect® *AS2 and *CRYPT modules provide all the advantages of high-security internet communication. Digital signature, acknowledgement of receipt, and encryption are included. In combination with i-effect® *EDIFACT and *FLATFILE you get two high-class EDI converters. You can either profit step by step or with the complete EDI solution, which can be completely automated by the *SERVER module. The internet is the most modern and cost-saving data transfer channel for companies, which exchange EDI messages with their trading partners.

The EDIINT AS2 protocol (Applicability Statement 2) was developed to put electronic business communication using the internet on a most reliable and secure basis. AS2 is the starting point for electronic data exchange.

Companies can save on high monthly transaction costs associated with Value Added Networks (VAN) by switching from classical EDI to EDI over the internet (EDI-INT, Electronic Data Interchange Internet Integration). The time that was used to correct mistakes in business transactions is now unnecessary, because of the security techniques of EDIINT AS2.

» Electronic Invoicing Replaces the Need for Collective Invoicing

If an invoice was transmitted electronically with the AS2 protocol, the authenticity and the integrity of its contents are guaranteed within the message itself, without an additional electronic signature (according to § 14 sec. 3 No.1 UStG / German VAT Law). New laws and regulations aiming at modernizing and de-bureaucratizing taxation have taken away the need to send a collective invoice, as stated by § 14 sec. 3 No. 2 UStG and EU guidelines (EU 2006/112/EG) for EDI processes.

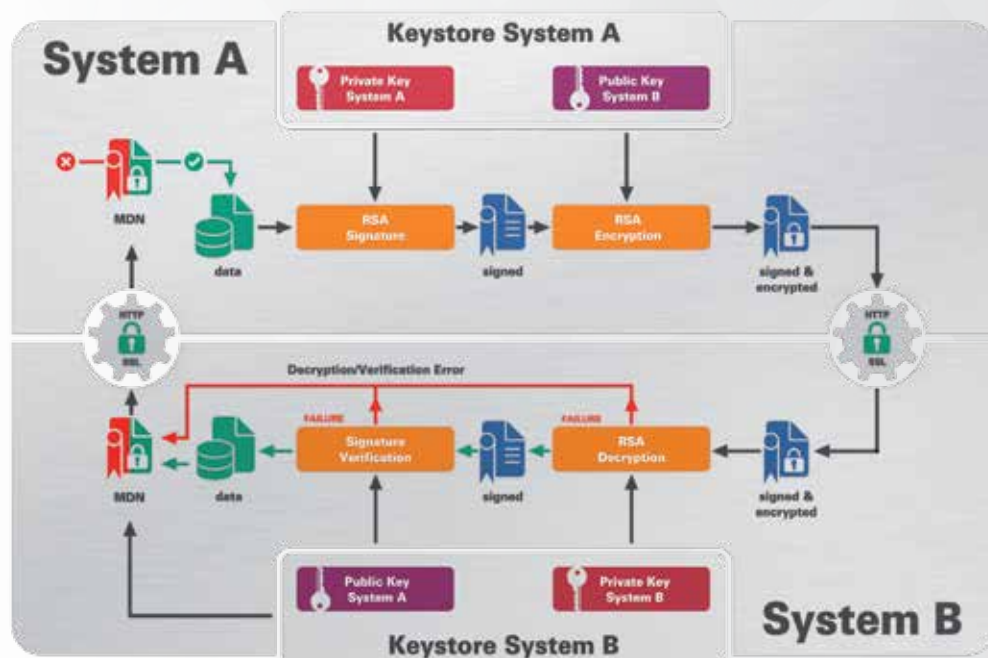
AS2 and EDI processes not only offer legal certainty with respect to input tax deductions on the receiver's side, they also take direct advantage of the savings potential (ca. 60%) of e-invoicing.

» *AS2 Functions

Features

- » Unlimited number of sending and receiving transactions; asynchronous/ synchronous acknowledgement of receipt (MDN)
- » Gateway support X.400
- » Native IBM i
- » Transfer via HTTP with optional SSL (HTTPS)
- » Multiple-to-multiple send and receipt, unlimited multiple connections
- » Certificate manager
- » X.509 v3 certificate (PKI)
- » Digital signature and encryption – combined with i-effect® *CRYPT
- » Monitoring of automated EDIINT AS2 workflow
- » Flexible methods for enterprise application integration (commands, file monitoring)
- » Logbook (detailed protocol on all sessions and activities)
- » Automatic restart in case of transmission cut-off and logging functions
- » Expandable to bidirectional message conversion from in-house formats into partner specific formats; all EDIFACT formats and integration of ERP is supported (EDI, flatfile, SAP IDOC, etc.)

» Flowchart of AS2 Communication



» For Companies of all Branches



i-effect® *AS2 appeals to companies of all branches. Large trade chains have already recognized the value of EDI/INT AS2 and expect their partners and suppliers to use AS2. This trend is confirmed by notable AS2 customers of menten GmbH such as Spedition Kleine, Trinks GmbH, and DACHSER GmbH & Co. Logistics giant, KG. DACHSER exchanges EDI data with its business partners, for instance Globus, Conmetall, Symrize, Compudata and GAH Alberts using AS2 with i-effect®. Conditorei Coppenrath & Wiese, Europe's leading supplier of frozen bakery products, also switched to EDI over internet. AS2's performance was also successfully tested with T-Systems, Wrigley, and OBI.

Apart from the communication with AS2, i-effect® also embraces modules to communicate via the protocols OFTP, FTP and X.400 (Telebox).

» Advantages of AS2 Communication

- » Transmits every type of business documents
- » Flexible use
- » Uses universal standard technology
- » High security standards
- » Fast ROI due to low operating costs
- » Fast implementation
- » De facto standard for B2B messaging
- » High availability
- » Security: data cannot be opened in transit
- » Reliability and uncontested due to transmission/reception confirmation (MDN)
- » Integrity: data protected from manipulation
- » Authenticity of Sender and Recipient guaranteed

» *OFTP – For Automotive, Suppliers and Logistics

» B2B Data Exchange Protocol via ISDN X.25



OFTP (Odette File Transfer Protocol) is the protocol for point-to-point data transfer, which was originally developed for electronic business communication between the automotive industry and its suppliers.

In many European countries, OFTP is known as ODETTE (the name originally stands for Organization for Data Exchange Through Teletransmission in Europe). The ODETTE organization, established by the European automotive industry, creates standards for e-business communication, electronic data interchange, and logistic

***OFTP is RFC 2204 compliant and in line with the recommendation 4914/2 of the VDA (Association of German automotive industry)**

» *OFTP Functions

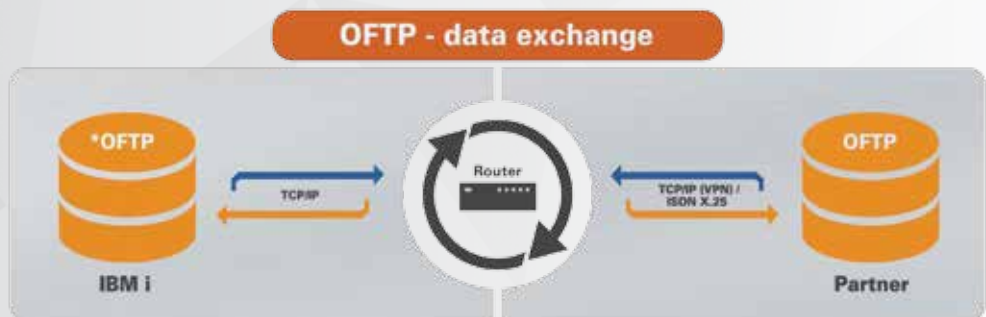
All *OFTP functions can be menu-controlled or completely automated by the *SERVER module.

- » Data exchange via modem, X.25, ISDN, or direct TCP/IP connection
- » Secure transport through access protection with OFTP password and a globally unique Odette-ID
- » Access to IE-Box (GXS)

- » In combination with modules *ZIP and *CRYPT, data can be compressed offline and encrypted according to AES standard
- » Automatic restart in case of transmission cut-off
- » Sending and Receiving (active and passive)
- » Logbook (detailed protocol on all sessions and activities)

management. OFTP is used for payment transactions systems between banks and companies (clearing), in the chemical industry, and transportation. OFTP meets recommendation 4914/2 of the VDA (The German Association of the Automotive Industry).

With i-effect® *OFTP, you get a native, high-performance, transmission software for IBM Power Systems. i-effect® *OFTP offers all the advantages of secure B2B data exchange.



When combined with EDI converter i-effect® *EDIFACT, i-effect® *OFTP offers a communication component for your complete EDI solution on the IBM Power Systems. With the *FLATFILE module you can convert your ERP in-house data (including SAP IDOC) bi-directionally into EDIFACT. *OFTP can be combined with all other i-effect® modules so that you can convert and compress your IBM i data according to the particular workflow and to distribute them cross-platform.

» *EMAIL – B2B Channel for Low Transmission Volumes



» Native E-mail Communication on IBM i



E-mail communication has been a basic application in business life for many years now. E-mail is not only used for communication but also information storage and the documentation of business workflow.

E-mail is an especially important mode of external data exchange for B2B from KMU, for example for online purchasing or selling. E-Mail requests, e-mail newsletters, and electronic advertisements have become standard procedures.

i-effect® *EMAIL is a native IBM i application for sending and receiving emails on IBM Power Systems. i-effect® sends and receives all IBM i objects, such as spooled files, ZIP archives, IFS, and DB/2 files, as well as the dispatch of MIME attachments to a

All e-mail functions run natively on the IBM i

» Security and Archiving

In combination with the i-effect® *ZIP und *CRYPT modules, data can be compressed before transmission, encrypted according to the AES standard, and stored using minimum space. All incoming and outgoing e-mails can be retrieved and read from the directory, according to regulations, at any time.

Automation for Clear E-mail Organization

All i-effect® functions can be controlled by the menu or completely automated with the *SERVER module and integrated in your existing workflow. You can run all e-mail processes according to a schedule or events. Regular and time sensitive transmission tasks are guaranteed, even if a shortage of staff occurs.

user-defined number of (copy) recipients. In combination with i-effect® *SPOOL, you can convert spool files into PDF and all common PC and graphic formats, and then you can e-mail them to external business partners or internal to single departments with any SMTP mail server.

IBM Power Systems program objects can be sent as a backup files (SAVF) to external IBM Power Systems as an attachment and are easily recovered on the recipient's system.

» *EMAIL Functions

- » Native IBM i
- » Sending and receiving e-mails with any SMTP Mail Server and POP3/IMAP Mail Server
- » Support of all IBM Power Systems files (spooled files, ZIP archive files, IFS and DB/2 files)
- » Any number of recipients, copy-recipients and attachments
- » Support of MIME encoded attachments
- » Automatic decryption of files attachments and texts and saving in IFS directory
- » RFC1522 compatibility
- » CCSID, encoding and DBCS support for international sending of e-mails which include special characters, DBCS characters and umlauts
- » Exclusion and saving of inline body text
- » Retrieve of any POP3 e-mail account directly on the IBM Power System (native POP3 client)
- » Logbook with selective processing of saved e-mails and attachments

» *FAX – Send any Print Version as an eFax Anywhere in the World

» *FAX – eFax for Fax Integration



Today, the fax is still an integral part of companies which communicate with clients, partners, and suppliers of different business sizes using heterogeneous IT structures. But in addition to fax, new channels of electronic communication have been established (e-mail, EDI).

As a consequence, sending faxes is often not connected with a company's electronic communication. The fax then becomes an isolated application for in-house use only which, moreover, is expensive to maintain. With i-effect® *FAX, you can send any of your system's print version directly from the IBM Power Systems easily as an e-mail

using an internet fax gateway. By consolidating your communications network with internet fax (no modem, no data transmission interface, no telephone extension), you save on operating and maintenance costs of fax machines.

No most costs for a separate fax line. International fax transmission is now practically free of charge. SMS transmission is included with the i-effect® *FAX module.

» Increase Productivity While Saving Time and Money

- » without fax hardware
- » without a fax server
- » without a modem
- » without an RDT interface
- » without a telephone connection
- » without high connection costs

» *FAX Functions

All *FAX functions can be menu-driven or completely automated by the *SERVER module.

and hints referring to status reports of the internet fax provider received by e-mail

- » Native IBM Power Systems
- » Faxing spooled files directly from program
- » Status information
- » Logbook recording all processes

» Simplify and Accelerate Your Fax Workflow



With i-effect® *FAX, there are no more trips to the fax machine. Forwarding and storage of faxes is done as fast and easily as sending and storing e-mails. In combination with i-effect® *ZIP, you can manage faxes in a space-saving ZIP archive and integrate them into your electronic document management.

With i-effect® *SERVER, all fax transmission processes can be automated according to schedule or event, regardless if it is a regular bulk mailing or a single transmission. Regular and time-critical transmission tasks are guaranteed, even if a unexpected or longer staff shortage occurs.

Cost-effective mass eFax transmission – without hardware and server

» *HTTP – The Standard Protocol for Web Communication



» Standardized Web Communication



The i-effect® *HTTP module exchanges business data over HTTP protocol server-based on IBM Power System. SSL encryption provides secure transmission of HTTP content (HTTPS). i-effect® meets the requirements for server authentication and client authentication. Data transmission and reception are supported by HTTP POST.

Encounter the heterogeneity of modern communication: i-effect® not only transmits using the HTTP standard protocol, it uses internet protocols e.g. EDIINT AS2, FTP, and SMTP (E-Mail, E-Fax). The X.400 (Telebox) and OFTP transport protocols are also covered.

The hypertext transfer protocol, HTTP, was the first method that was used for transmission between web server and browser in TCP/IP networks and on the internet. HTTP is a low-cost and wide spread method for point-to-point data exchange. It is also used in EDI communication.

Trading partners exchange user id and passwords to log in on the partner's HTTP server. i-effect® *HTTP is the IBM i native HTTP connector for data exchange between IBM Power Systemen and other computer systems.

» *HTTP Functions

All *HTTP functions can be controlled using menu or fully automated by the i-effect® module *SERVER

- » Transmission TCP/IP – HTTP
- » Server authentication
- » Client authentication
- » SSL encryption (HTTPS)
- » HTTP POST
- » Partner-steered automation
- » Converting into EBCDIC

- » Calling any function automatically, event-driven or according to a schedule through module *SERVER
- » Automatic restart in case of transmission cut-off
- » Logbook (detailed protocol on all sessions and activities)

» *FTP – The Classic Point-to-Point File Transfer

» *FTP – Exchange Large Amounts of Data, Fast and Safe



i-effect® *FTP is a native IBM i FTP connector for data interchange between IBM Power Systems and other computer systems using TCP/IP networks. *FTP offers data transmission of the IBM EBCDIC (Extended Binary Coded Decimal Interchange Code) character set.

Alternatively, smaller data volumes can be sent as an e-mail attachment to business partners with the i-effect® *EMAIL module. *FTP can be combined with all the other i-effect® modules so that you can convert and compress your IBM i data according to the particular workflow and to distribute them cross-platform.

» *FTP Functions

All *FTP functions can be menu-driven or completely automated by the *SERVER module.

- » partner-steered automation of all TCP/IP-FTP data transfer requirements
- » conversion into EBCDIC

- » automatic restart in case of transmission cut-off
- » Logbook (detailed protocol about all sessions and activities)
- » SFTP and FTPS functionality in combination with i-effect® module *CRYPT.

» Highlights

If high transaction volume, time critical applications (just-in-time supply chain), conversion between different message standards, or connection with large trading partners require an EDI solution, i-effect® offers a flexible basis for creating your own EDI structure.

Combined with the EDI converter, i-effect® *EDIFACT, i-effect® *FTP provides the communication component for your complete EDI solution on IBM Power System. With the *FLATFILE module, you can bidirectionally convert your ERP in-house data (including SAP IDOC) into EDIFACT.

» Advanced security with SFTP & FTPS

In conjunction with the i-effect® *CRYPT module *FTP supports both the SFTP (Secure File Transfer Protocol) and the FTPS (FTP over SSL) functionality. This provides more security for file transfer and confidential data stream.

FTPS enables encryption over SSL by using additionally defined security extensions to the FTP protocol, whereas SFTP provides authentication and encryption using SSH. This way a secure transfer is established preventing passwords and sensitive data from being transmitted in plaintext form.

» Background

The File Transfer Protocol, FTP, was one of the first data transmission processes that was used with TCP/IP networks and the internet for especially large files and between differing computer systems (RFC 959). FTP, which can also be used to transmit EDI (Electronic Data Interchange), is thus a cost-effective and widely used process for point-to-point business data exchange.

Business Partners exchange their user names and passwords to login to their partner's internet server.

»» *SOA – Merging Processes and Applications

»» React to Market Changes Faster with SOA



High agility, flexibility, and adaptability are only a few of the requirements of an IT system. To meet your customer's requirements and to react to new market situations, and keep IT costs to a minimum, a comprehensive system solution is needed: SOA. It is now easier for your company to convert or set up your IT infrastructure with a service orientated architecture using i-effect®'s new module *SOA.

SOA's transparency and clarity support and compliment your existing IT environment and help you react more quickly. Existing business processes and applications are analyzed; their functionality is inventoried and then combined with new processes. You can then react quickly to changes in the market and your customers' needs.

Integrated Solution

Interfaces can be set up quickly and flexibly and several applications can be combined with one another. The advantage is that it merges existing processes and applications to a complete solution.

Example of a Request/Response Application with SOA:

The bank's name, the zip code, and the city will automatically be filled in using the web service, for specified routing numbers. An error will occur, if the routing number is not correct.

Examples include: credit card verification, e-mail address verification, order status requests, delivery status requests.

» SIGNATURE & ENCRYPTION

„Safety First“ is „Safety Always“
Uncompromising data encryption, legally
compliant signatures and verification of
digital identities provide seamless security.



» *CRYPT – Uncompromising Security with 2048bit Encoding



» Security for your B2B



Data protection, back up, and security are keywords for safeguarding a company. Companies with B2B processes are focused on the integrity of electronic business transactions. A faulty security concept will most likely create a financial trap for companies due to internal or external data abuse. Many small and medium sized companies fail to implement effective security techniques.

Limited resources and concerns about administration costs are the main obstacles. i-effect®, the data integration solution, can help eliminate these obstacles.

The i-effect® *CRYPT module is an elegant solution integrated into your workflow for signing and encrypting sensitive business data directly on the IBM Power Systems for local storage and external distribution.

With i-effect®, you can sign and verify PDF documents. The signing function is integrated into the i-effect® *CRYPT module. For conversion of business data, the combination of the i-effect® spool converter with the modules *SPOOL and *SPOOL+ is also available.

To give your e-mail recipients added security, you can sign all outgoing e-mails using i-effect®. This way, all your outgoing e-mails can be identified, the contents remain intact, and misuse of sender addresses can be prevented. The recipient can see if the e-mail was sent with a trusted sender's signature, even before opening it. The combination of the i-effect® *CRYPT and *EMAIL modules are available for this purpose.

» EDI Invoicing

In Germany, it is only possible to replace written legal documents electronically with a qualified signature. The most important use for companies is electronic invoicing with a mass signature, for high invoice volumes.

The i-effect® *CRYPT and *SIGG modules can be combined to link qualified electronic signatures with documents by using legally required chip cards.

» 2048bit Encoding with AES

In combination with the *ZIP compression module, i-effect® *CRYPT encrypts ZIP archives according to the Advanced Encryption Standard (AES). Encrypted data can be decrypted and edited on any platform, anytime, and with any AES-compatible application. After doubts regarding the security of the Data Encryption Standard (DES) were confirmed in the late 90s by a test deciphering, AES (or Rijndale algorithm) became the leading cryptosystem.

» *CRYPT Functions

Advanced Digital Signature and Signature Verification

- » PDF documents & other files
- » E-mail communication (S/MIME)
- » Designed for AS2 communication
- » Multiple signatures for PDF documents
- » Visible and invisible PDF signature
- » Automatic scaling of signature size
- » Signature algorithm: RSA (Hash SHA-1, MD5)
- » PKCS#7 signature of PDF documents
- » Certification format: X.509 v3, DER, and PEM encoded

Encryption & Decryption

- » Any files (symmetrical with AES, asymmetrical with 3DES)
- » AES (256bit), 168bit triple DES, RSA (512-2048bit)
- » E-mail communication with S/MIME (content) and SSL (Transport)
- » AS2 communication (content + transport [SSL])
- » Cross-platform

» Extra Security for your Online Data Transfer

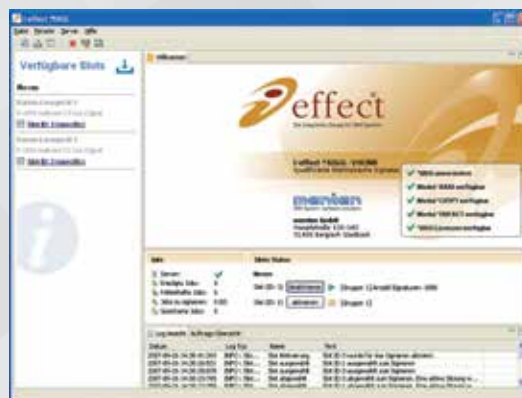
» Qualified Electronic Signature and Encryption



i-effect® offers all required modules to give your business processes greater transmission and informational security. Purchasing from online shops, distribution and logistics between manufacturer, suppliers, and customers, or electronic invoicing are paths of business communication, which are secured with digital signature and encryption.

According to the German Signature Law (SigG), a qualified electronic signature can replace a personal signature. Such signatures are mainly used for invoices, which – depending on volume – can lower processing costs up to 90%. To sign invoice documents on the server, the signature module of i-effect® uses a signature generated by a chip card. Signatures can be attached to PDF invoices for e-mailing or to EDI messages.

Signature sessions (Slot) can be set up easily using the graphical interface (GUI) of the Java-based signature server. Signature operations can easily be added to document-related business processes.



Automating your administrative processes will allow you to make the best use of your time and human resources, and consequently, to devote them to revenue-generating activities and to gaining a competitive advantage. By eliminating expenses associated with paper-based invoicing (e.g. postage or printing costs), you will be able to significantly reduce your operating costs.

Additionally, invoices are delivered to their intended recipients much faster and more reliably. This, in turn, gives the recipients the possibility to digitally edit the received data, avoid late fees as well as to take advantage of cash discounts. Time and money are saved, because proofreading and changes in storage media are no longer necessary.

These standards also make data uneditable, data transfers confidential, and guarantee the authenticity of communications partners.

» Qualified Electronic Signature: *SIGG

Approved by the German signature law (SigG) and meeting the US (15 U.S.C. ch. 96) and EU eSign act requirements.

Signature

- » Creates signatures using P7S, P7M for e-mail attachments
- » Generates signatures for EDIFACT messages

- » Integrated PDF signatures (in-/visible, exact page placement, exact positioning, exact image placement, time/date, signature identity, reason for signature)
- » Certificate formats X.509 v3, DER-encoded
- » Signature algorithm RSA
- » SHA256 hash algorithm

Signaturprozess

- » Scalable signature performance (signatures per hour)
- » Additional Slot with *SIGG+; simultaneous activation of extra readers
- » Mass signature (1-time PIN entry)
- » Signature operations monitoring, self-test mechanism
- » Logging and caching of signature server jobs

Chip Card Slot

- » Secure PIN entry directly on the card reader
- » Overview of the available slots
- » Slot filter: display of mass signature capable slots
- » Individually modifiable validity values for signing sessions for each slot
- » Automatic slot deactivation when the validity expires

Requirements

- » Operating system: i5/OS V5R3 or higher)
- » Signature card D-TRUST multi-card (D-TRUST c-card V2.1)
- » Chip card reader SPR532

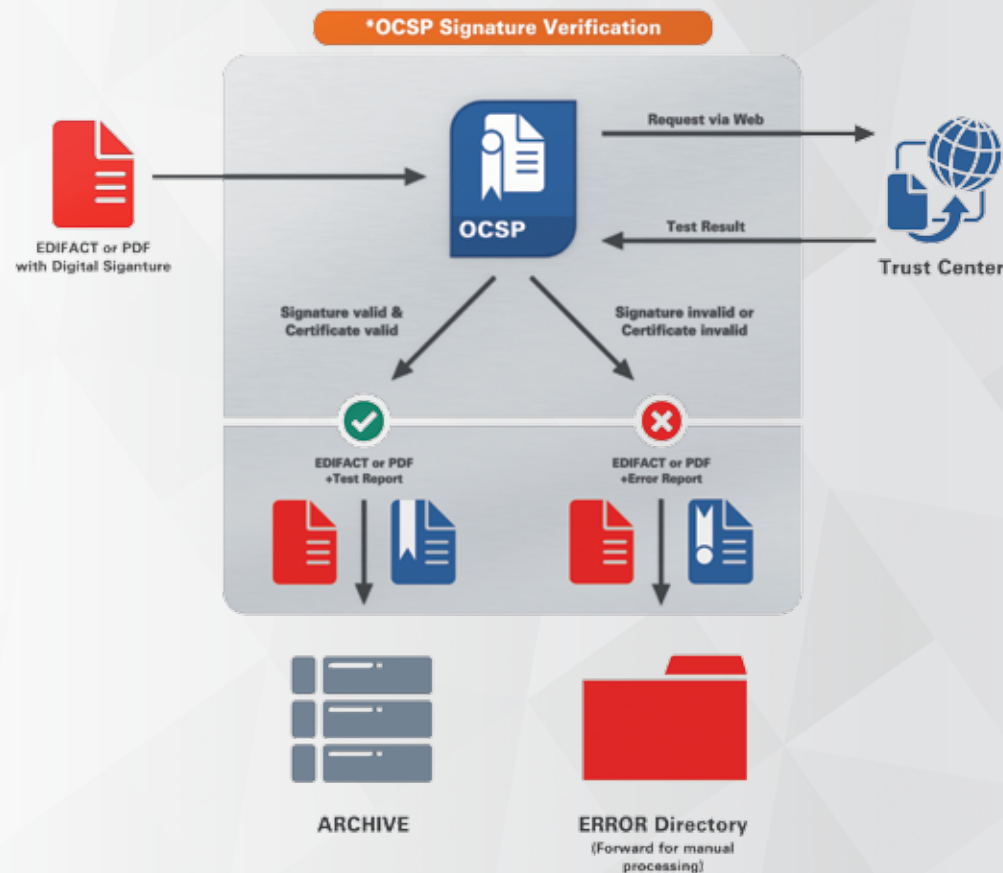
» Real-time Certificate Verification with *OCSP



The i-effect® *OCSP module provides information about the status of a certificate.

*OCSP offers quick and automated verification of certificates. *OCSP requests the status of the given certificate from a Trust Center via a secure Internet connection. If the certificate is valid, *OCSP verifies the incoming data and creates a verification report, which is added to the signed document and forwarded to the workflow.

If the certificate has expired or is blocked, an error message will be created and it will be forwarded for manual processing. By means of the manufacturers declaration, the product is compatible with SigG compliant applications, according to the German Signature Law, which increases the security of certificates.



» *OCSP Signature Verification

Signature Verification

- » Real-time status testing
- » Online testing of X.509 certificates
- » Automatic testing of signed documents at reception
- » Archiving of status logs
- » Output of the test reports in different languages
- » Communication protocols HTTP or HTTPS
- » Defined in RFC 2560

The i-effect® *OCSP module can be combined with other modules!

»» ADDITIONS

*ZIP - WinZip compability for IBM i



» ZIP – Compression, Archiving, and Backup

» *ZIP – Native Data compression for IBM i



Data compression is used to save space or to optimize transfer rates. ZIP has become the leading format for compression, also 7z, Gzip and others. Besides that, ZIP has one more important factor: it makes management of data, be it for transfer, archiving or backups easier.

i-effect® *ZIP is the native compression software for the IBM Power Systems that has a high compression rate, up to 10% of the original size, which gives you 90% more storage space. i-effect® *ZIP also supports Zip64 with file sizes more than 4 GB and is, therefore, excellent for hard disk backups. i-effect® *ZIP has all the special features of the IBM Power Systems: it compresses and decompresses spooled files, save files, and physical files. i-effect® covers all CCSID and can convert between ASCII and EBCDIC.

i-effect® *ZIP's compression technology is compatible with WINZIP™ and GZIP, BZip2, XZ and LZMA, which are available on many platforms (WINDOWS, DOS, UNIX, VMS, etc.).

Thus, ZIP files can be distributed across platforms. Including functions for creating, adding, deleting, extracting, and displaying zip archives, i-effect® *ZIP is 100% compatible with other archive software and is therefore the ideal support for exchanging data with other systems and platforms.

Zip compatibility for System i

» *ZIP Functions

» Supported archive formats:

Zip, Zip64, AR, CPIO, Tar, 7z
(Inkl. COPY, LZMA2, DEFLATE, BZIP2),
JAR (inkl. pack200) also ARJ and DUMP

» Supported formats compressor:

Gzip, BZIP2, XZ, LZMA

» Creates ZIP files nativley on the IBM i

» Compression of spool, IFS, physical DB2
files (PF-DTA, PF-SRC) and save files in ZIP

» For administering ZIP archives it is
possible to choose the input file system
as well as the output file system. This way
it is possible to compress and decompress
directly between DB/2 and IFS.

» Zip64 automatically for files larger than 4GB

» Encrypts files with ZIP or with AES

» Depending on the target system, where
the file will be used, different CCSIDs can
be selected for the uncompressed data,
ASCII and EBCDIC

» Decompression with any WinZip

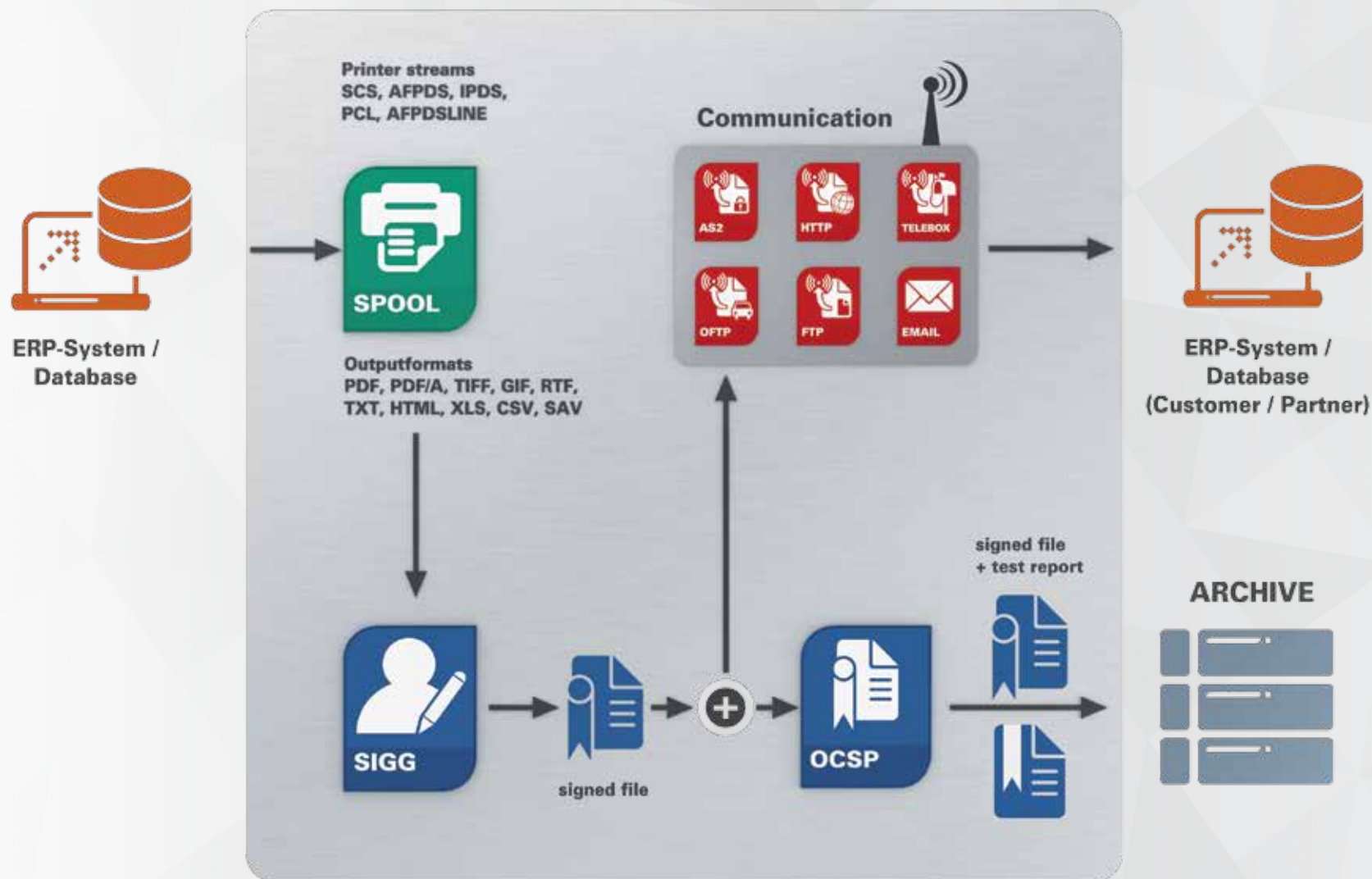
compatible software

» Function for license-free decompression

»» EXAMPLE OF USE

»» Application – Transmission and Archiving of PDF or PDF/A Messages

The i-effect® *SPOOL module converts printer streams into the desired file format and, if required, signs them with a qualified digital signature. The validity of the signed file is then tested and a copy is saved with a test report in the Infostore archive. The signed file can then be transmitted using AS2, e-mail, OFTP, Telebox, HTTP or FTP.



» Our Customers

Our customers are IBM Power Systems users of different sectors, which includes small and medium sized businesses as well as large enterprises. menten GmbH has established itself as a partner for large companies, who use external help to manage their central organizational processes.

We are proud to have many happy customers, from a variety of sectors, who have benefited from our technical experience:

» Business Sectors of our Customers:

- | | |
|----------------------------|--------------------------------------|
| » Automotive | » Machinery, Appliances & Components |
| » Construction Goods Trade | » Media |
| » Chemical Industry | » Furniture industry |
| » Financial Services | » Fashion & Textiles |
| » Health care services | » Food & Beverage |
| » Wholesale trade | » Tourism |
| » Household goods | » Packaging Industry |
| » High-tech & electronics | » Insurance |
| » Logistics | » Energy supply |
| » Aerospace industry | » Webhosting |



more on i-effect.com

What our Customers Say

Our customers trust us. The reports on these pages will show you why. We'll introduce you to a few of our customers and show you how they used our solutions to solve their different business problems.

These reports have one thing in common, these customers were able to cost effectively modernize their IT with little risk.



MS MARTINA KÜHNEL
RHEINISCHE ENERGIE AG

"i-effect® was able to convince us by meeting our demands with its flexible, low maintenance structure and a good price-performance ratio."



MR FRITZ HAUBRICH,
WORTMANN KG

"i-effect®'s stability, its easy handling, and the professional consultation were all convincing."



MR ULRICH KOTTWITZ,
CONMETALL GMBH & CO. KG

"i-effect® is an integrated system and unitized application. A System i solution, which adapts to our requirements."



MR UWE BOJARRA,
NOLTE KÜCHEN GMBH & CO. KG

"The price-performance ratio of i-effect® was the most attractive of all competitors."



MR THOMAS SPECHT,
BITO AG

"A simple solution, which works quickly and reliably on the iSeries."

Complete reports at www.i-effect.com

» Mitutoyo Europe GmbH Relies on EDI and AS2 with i-effect®

Mitutoyo Europe GmbH – the world's largest metrology company – had many challenges: consolidation of 6 European IT locations with the location in Neuss, the introduction of EDI and AS2 on the IBM Power Systems as well as connecting their own ERP System with the central warehouse of a contract logistician.

Mitutoyo, a full service provider for metrology, undertook a large number of strategically important tasks in order to fortify its internationally leading position. Increasing globalization, stronger competition, increasing energy costs as well as fluctuations in demand gave the company even larger challenges. Restructuring began with the decision to move from using their own warehousing with over 9000 different products to using external warehousing and connecting it to the in-house ERP system with UN/EDIFACT and AS2.

Due to growing success and the continued expansion of the company, logistics and IT were constantly pushed to their limits. In order to implement the newly adapted company strategy in IT, the introduction of a new EDI software was required. To maintain direct and unobstructed EDI communication with the contract logistician, only an in-house solution could be considered. EDI data exchange through an external clearing center wasn't up for debate. This would have threatened data security and create incalculable costs as well as inflexible processes.



Mitutoyo

Today, 70 years after its founding, the name Mitutoyo is synonymous with the most comprehensive product spectrum of the metrology industry and the most internationally active complete provider of this economic sector.

A company that today operates as a worldwide, industry leading company, with a product range of over 9000 high-tech measurement instruments, began in 1934 with the production of a single product: the mechanical outside micrometer.

During their search for a suitable integration software, the employees of Mitutoyo also tested the graphical EDI solution i-effect®. menten GmbH's experts were brought in on the project, because no EDI system had been previously used. „High cost-effectiveness, flexible and innovative handling, and the predictability of costs were all determining factors for i-effect®“, said project manager Frank Dreischmeier. „The almost self-explanatory creation of mappings – even complex mappings are displayed in a graphical interface and can be changed and adjusted easily – was another deciding factor for i-effect®.“

i-effect®, a modular IBM i solution, provides completely automated data exchange using a secure AS2 communications channel, the conversion of UN/EDIFACT message types with all subsets as well as processing of spooled data in all common file formats. Mitutoyo Europe GmbH can thus set up and implement company-wide business processes.

**Mitutoyo Europe GmbH,
Head Office in Neuss**

Cooperation with the contract logistician functions in two steps. First, products are taken from the production site and warehoused, then the products are delivered to the customer directly from the logistician. Both steps of this process are highly automated. A Mitutoyo employee enters, as before, the picking information into the ERP system and the data is then written into the IBM DB2. Using a RUNMAP command the picking information will be converted to a UN/EDIFACT message from the DB2 and then sent to the contract logistician, whose employees know exactly which products, quantities and from which production site they should be picked and then warehoused.

It is imperative not to lose track of several production sites and the decentralized warehouse. Whether it is inventory reports (INVRPT) due to stock movement or reconciliation reports, which supply a daily inventory and stock level/movements, the quality of data and clarity of the processes are guaranteed by current UN/EDIFACT status messages. If, in spite of this, there are still discrepancies, Mitutoyo's employees will be notified via Email that stock level corrections might have to be made.

In the second step, the Mitutoyo sales employees send purchase orders to the contract logistician, who then can send the products to the customer. Order processing and monitoring are thus extremely accelerated.

„Our customers directly profit from the optimized process: they receive their product much faster“, said Project manager Frank Dreischmeier. All processes are confirmed with EDIFACT status confirmation, so that the supply chain remains clear, verified and traceable in real time. „The processes are very transparent, all actions can be monitored/ followed quickly“, added Dreischmeier.

EDI data exchange shortens the reaction time for all incoming customer orders. Electronic data transmission keeps the data of the entire supply chain current and available at any time. Planning and scheduling reliability has thus increased. Because data is no longer collected manually, the potential for savings has also grown, e.g. by reducing errors, avoiding format mismatches and recognizing duplicates. An automated EDI solution is for Mitutoyo Europe GmbH especially important, because their business processes, for the most part, are repetitive.

However complicated the consolidation and connection to a contract logistician was, training and instruction of all IT specialists was finished in one day. „The quick realization of the whole project by menten's employees and their service were exemplary. Even with complex tasks, we never reached the limits of the software. The software's architecture, the design and the monitoring tools are so clearly arranged that new requirements are quickly realized and most importantly the costs required to make such adaptations can be estimated relatively precisely“, added Frank Dreischmeier.

After the project was completed successfully, the Mitutoyo main branches in Italy and Great Britain have also switched to the EDI solution i-effect®.

Cayan Yorulmaz



» Rheinische Energie AG Makes the Change Just in Time Thanks to i-effect®

Deregulation of the German energy market required all energy providers to completely switch to the UN/EDIFACT standard for data exchange. New legal requirements and the need to remain competitive in an open market required a flexible solution, which Rheinische Energie AG (rhenag) found in i-effect®.

The deadline for energy providers, which the Federal Network Agency (formerly RegTP) set, was the 1/Aug/2007. Over the course of the deregulation of the energy market, all electricity providers in Germany were required to bring their data exchange in line with the UN/EDIFACT standard.

At first, only registration and deregistration of network access, as well as meter readings had to be transmittable in EDIFACT format, and later network access invoices and advanced payment notices. This was done to guarantee transparency, open competition, and fair pricing.

In order to bring the company in line with the new legal standards for energy utilities and to bring the company strategy into the IT department, an EDI software was required. As rhenag looked for a fitting integration software solution, they also tested i-effect® – and were convinced by the results: scalable, low maintenance, and multitasking.

An important feature was automated execution of business processes with EDI as well as the creation and shipment of customer invoices. Easy expansion was also



Rheinische Energie AG (abbr: rhenag) – Founded 1872 in Cologne – is an established regional utility and also specializes in cooperation with municipalities and public services.

With its 41,000 electricity and 85,000 gas customers, rhenag is an important energy utility in the Rhine metropolitan area. In addition, rhenag delivers water to almost 100,000 residents. As of 1/Aug./2008 gas was also regulated along with electricity for regulating authorities.

important, because of the high number of communications partners and with the further deregulation of the gas market on the 1/Aug/2008 more changes would be expected.



**Project Manager
Martina Kühnel
Rheinische Energie AG**

The modular solution i-effect® enables automated data exchange over many communications channels, conversion of all UN/EDIFACT message types and subsets, as well as spooled data processing into all required formats. This makes set up and execution of company-wide business processes easier.

i-effect® was introduced for rhenag's data processing center. A cost-intensive and mainly inflexible outsourcing solution didn't come into question for project manager Martina Kühnel. "The product must meet all our requirements and be cost effective."

The energy utility uses i-effect® to meet the requirements made on company processes because of deregulation in cooperation with other market partners, even for future changes.

"We were convinced by this solution, because it runs directly on the System i (iSeries/AS400)," said project manager Martina Kühnel "and, because of this, didn't require further investments in hardware for communication."

The industry solution has strengthened the productivity and specialization of the nationally active company rhenag. Invoice systems exchange thousands of structured information such as master data from customers, contracts, metering stations, as well as registration and deregistration automatically. In total, almost 9000 EDIFACT messages are organized and handled every day with i-effect®."

i-effect® is multifaceted, which is an added advantage. We use many modules, which we didn't plan on at first. Because of new challenges and regulations we were able to see that the solution was already there," she added. Conversion of spooled printer streams is one of the main aspects of this.

Every month a spooled file is created from the computer system with ca. 32,000 individual pages, which are then split by the *SPOOL module and converted into PDF format. PDF invoices will be automated and sent directly via email to customers or to a print shop to be printed.

Cayan Yorulmaz



» Conditorei Coppenrath & Wiese Sends Cream Pies via EDIINT AS2

The largest maker of frozen baked goods had 10 days to switch its EDI communication with the Wal-Mart subsidiary, Asda, to AS2. Conditorei Coppenrath & Wiese kept the tight schedule of i-effect®'s implementation with remarkable ease.

The Deadline came suddenly. Asda required from its 2500 suppliers that they switch to the internet protocol EDIINT AS2 within 10 days. The IT team was challenged to find, in record time, an AS2 solution for the server system i5 and a provider that was just as fast.

90% of the external data transmission had been done over FTP up to that point. The most modern confectionery in Germany supported the switch to internet communications from the beginning. "Unexpected failures and the time the value added services were down were worse than the probability of a complete internet crash," said the EDI project manager, Peter Kosel. The unclear billing procedures of VAN and the savings because of AS2 were not the only reasons for switching to EDIINT AS2.

Conditorei Coppenrath & Wiese uses their own freezer technology to get the frozen baked goods reliably, on time, and undamaged to their destinations. The family-run company demands the highest standard of quality and hygiene, from its confectioners. For this reason, the premium assortment of over 70 different bakery products are only produced in neighbouring Mettingen, where over 1 million pies, cakes, and 1.5 million bread rolls leave the bakery every day.



Coppenrath & Wiese GmbH & Co. KG is one of the largest maker of frozen baked goods in Europe. The company produces frozen tortes, cakes, and buns. It has 1700 employees at its production facility in Mettingen and 300 at its distribution center in Osnabrücker Atter.

IT Strategies Account for Growth

From the distribution center in Osnabrück, their subsidiary Overnight TK-Service GmbH supplies their partners; running a tight schedule with a fleet of 35 trucks. 90% of business transactions are conducted electronically. Around 30 EDI-partners are part of the Workflow; among these are all leading English firms like the Wal-Mart subsidiary, Asda. 50% of their exports go to Great Britain. All of the current message types such as INVOIC, ORDERS, DESADV, and inventory reports are exchanged. The receipt of Sales reports from distributors is noticeably increasing. The server i5 570 carries all EDI Processes on one partition. An i5 520 is always ready to make backups. The project manager knows performance bottlenecks: "We plan oversized. On demand is the magic word. If needed, we can expand our CPU." Peter Kosel, who has worked with EDI at Coppenrath & Wiese since 1994 started exchanging data: "with streamers and with an old 32. The system has been approved for years. We don't see any reason to switch from IBM Technology."



The shipping subsidiary Overnight TK-Service operates at the distribution center in Osnabrück.

Functionality, Service and Licensing Terms Determining Factors

The decision for the data integration solution i-effect® was obvious. The modular architecture of the Standard Solution, which, as complete EDI Software, uses all important communications protocols and offers companies a flexible approach to go, when needed, from classical EDI to EDI over the internet. The project manager needed only one day to settle on the System i experts from Bergisch Gladbach, when he needed a quick Telebox solution for the exchange bilaterally agreed upon data formats. "The recommendation came from an independent EDI consultant. Mr. Menten came on the same day and in the evening everything was taken care of." The ZIP module of i-effect® was added, to cut down the transmission time with compressed data.

The License terms were also a determining factor. "The fact that we have different processor types should not concern the software provider. Furthermore, he has to program his software, regardless of how many partners we communicate with." Both the OS/400 Native functionality and the attractive license terms spoke for i-effect®, which is independent from processor groups. The number of EDI partners and the data transmission rate can be individually scaled.

Speed, Security and Integrity Key Issues

The installation of the AS2 Server and the AS2 Client was worked out with an EDI team of 2. Particular attention was given to the AS2 certification process, which

verifies the communicating partners' trustworthiness and the choice between synchronous and asynchronous receipt. Both welcomed the digital signature, which finally put an end to the issue of unconfirmed shipments. The initial object was, however, to "eliminate delays. Sometimes we needed, with IBM IE and Telebox, up to 45 min. to send the data. Data transmission could have been delayed up to an hour if the polling times of the partners' systems were long."

A Minor Stumbling Block at the End

An unexpected obstacle occurred, when a configuration error was caused by the AS2 Subsystem as it called the Java Virtual Machine. i-effect® requires Java Runtime 1.4, but version 1.3 was installed on the customer's machine. A quick change to the configuration to access the correct JVM application straightened things out.



Cost-saving Catches On

Peter Kosel sees the switch to AS2 has potential for the future: "Metro and Edeka are also forcing the change. We will, however, approach the market, to expand the use of AS2."

The fleet of trucks delivers the delicate frozen backed goods on a tight schedule.

» Nolte Küchen Solves a Logistical Bottleneck with AS2 Gateway

Searching for a solution to correct the poor coordination between product delivery and the delayed receipt of electronic delivery notices, Nolte Küchen came across the internet protocol EDIINT AS2, the new communications module of i-effect®, and solved its EDI problems.

The second largest kitchen brand in Germany, whose roots go back to the 1930s, exports into 42 countries across the world. Kitchens are designed and built in Löhne, the "World City of Kitchens," and 30 Km away in Melle, where supplemental components, such as, electrical appliances are delivered. To coordinate the combination of supplemental components and those built by Nolte, the distribution center in Melle is equipped with, what is considered, leading technology in Germany. Nolte Küchen deals with 200 suppliers which include well-known companies like Bosch and Siemens Appliances, Blum, Egger, Hettich and Kesseböhmer. Every Month about 1500 orders go out as EDIFACT and about 1000 as PDFs to their business partners. An order can comprise of up to 100 items. It is a troubling thought that trucks, which had short distances to travel, had to wait at the loading docks for advanced shipping notices to arrive.

Herbert Czerwonka, the system administrator, holds the limited transmission capacity of Businessmail X.400 responsible, which was used to transfer, among other things, ORDERS, order confirmations, shipping, and payment notices with 25 partners. "Because the transmission rate of ISDN at high volumes is much slower, the DESADV would often arrive a half an hour after the truck." The solution to this problem should include the



*Die Kompetenz
in Sachen Qualität*

Nolte Küchen is now the second-largest producer of fitted kitchens in the middle of the range segment in Germany. The company, established in 1958, has more than 1,100 employees and Nolte kitchens are exported to 42 countries worldwide.

main advantages of X.400. "The Telebox has a good reputation among our partners and is seen as a secure mode of transmission." The IT representative came across the EDIINT AS2 when menten GmbH introduced him to the i-effect® *AS2 module. The internet protocol transmits in real time at every volume. "The data is not transmitted by dial-up, but by the AS2 Gateway from T-Systems and reaches the Telebox in 2 to 3 minutes" Czerwonka said. Nolte Küchen communicates with three partners with the AS2 directly. The dedicated AS2 communications server is the iSeries 810.

In 2001, Nolte Küchen switched from an inefficient PC program to the sever-based Telebox and EDIFACT modules, the predecessors to i-effect®. "We wanted a solution at the place, where the data is created. Our key business processes run on the iSeries. The conversion and communication software should also" is how Czerwonka justified the switch to the Native Solution. The tip from an independent EDP consultation to look at the products of menten GmbH, was just the right thing for system administrator Czerwonka. "The price-performance ratio was the best of all the competitors. Others offered packages, that had functions, which were not needed, and thus, too expensive."



Nolte Küchen is the second largest kitchen brand in Germany.

The technology of the distribution center in Melle is considered a leader in Germany.



Nolte Küchen uses i-effect®, in addition to the classical EDI-Workflow functions, in other areas of distribution. i-effect® converts Spool order data into PDF documents using the i5 550, which is to be sent on to approximately 75 suppliers via Email. That is, incidentally, the only process that Czerwonka doesn't allow i-effect® to do automatically, because the dispatcher ships only after personal quality control and sometimes prints the PDF first when necessary. The module i-effect® *DBEXPORT exports the production data directly from the DB2 and converts it into the editable formats TXT, XLS, or CSV, so that it can be edited and changed directly in a digital format by Nolte's partners. The production data is retrievable as compressed by i-effect® as ZIPs.

Herbert Czerwonka can clearly attest for the smooth operation i-effect® and its predecessors. The initial implementation was fast and easy. menten took care of the unfinished mapping details quickly. The switch to i-effect® and the upgrade to AS2 brought some typical adjustment problems with them. While i-effect® didn't accept the configuration data, a missing PTF from IBM caused a Telebox dialling problem with the acquisition of AS2. "We had to use a few tricks, to keep the processes going." Czerwonka said. But since the initial obstacles were overcome, thanks to the prompt support from menten GmbH "everything runs well again."



**Production site Löhne –
the "World City of Kitchens."**

» Interested in our Solutions on IBM i?

Try i-effect® now on a „no cure — no pay“ base.



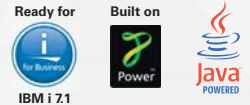
HERE IS THE MODEL:

---- NO OBLIGATIONS, NO HASSLE, NO FEES AND NO CREDIT CARD ----

- 💡 You supply some basic system information.
- 📄 We make a quotation without engagement.
- ❤️ You let us know if you accept the offer.
- 👉 We install the i-effect® solution on your system.
(remote Teamviewer installation; on-site available on request)
- ⚖️ You test i-effect® during 30 days.

AFTER THE TEST PERIOD:

- ❌ If you're not entirely convinced: we uninstall i-effect® and say goodbye.
No invoice is sent.
- ✅ If you're satisfied with the results: you simply continue using i-effect® and we send you an invoice according to our offer.



www.i-effect.com

Orders, Information, Consultation

For a free 30-day test version, detailed overview of module functions visit www.i-effect.com

You can also contact us at **+49 2202 2399 0**

menten GmbH – Short Profile

The company's main focus is on small and medium-sized businesses of all sectors using IBM Power Systems. Since 1989 menten's team has specialized in developing server-based IBM i Standard Solutions. Service and maintenance, system technology, and hardware sales accompany the IT services around the server family.

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