Solutions Catalog

The ISIS Papyrus Document System

Issue 2000

www.isis-papyrus.com

High Performance Solutions for Business Document Automation and Management

solutions catalog

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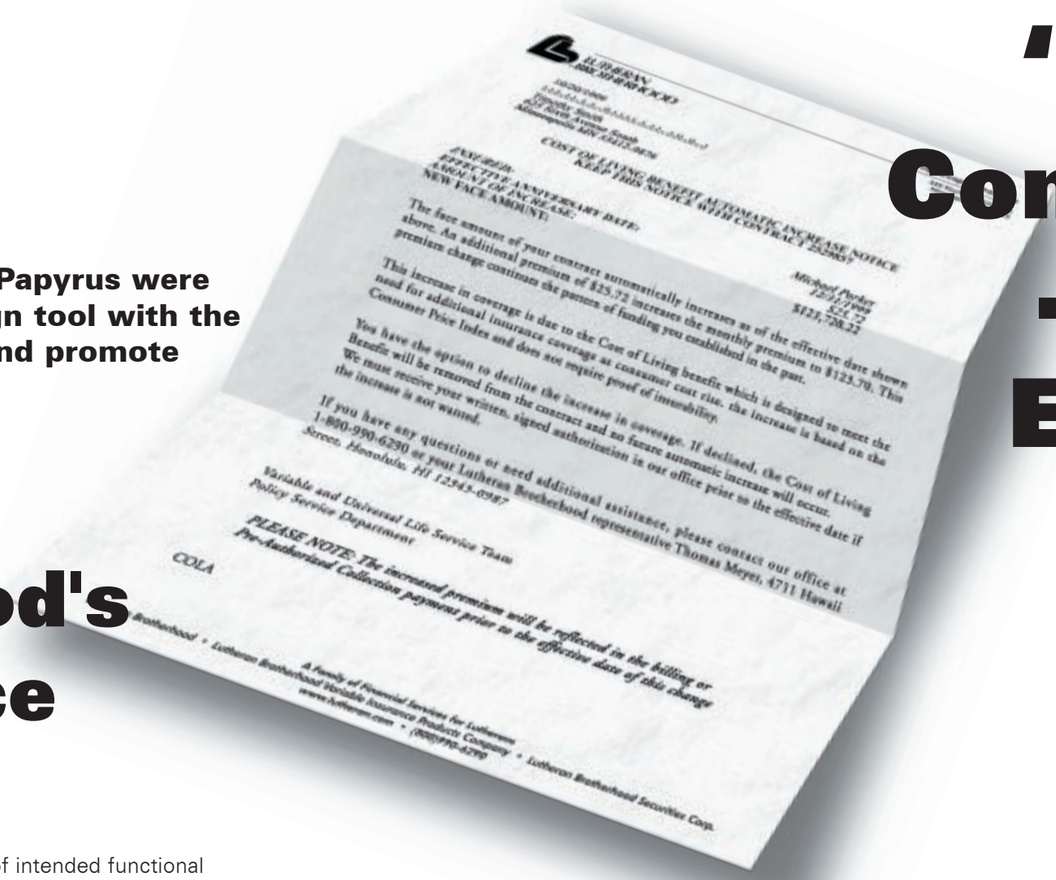
content

...Reasons stated for choosing Papyrus were the powerful WYSIWYG design tool with the library facilities to enhance and promote re-use of document objects...



"External Consistency - Internal Efficiency"

Lutheran Brotherhood's Total Correspondence Solution

Based in Minneapolis, Minnesota, Lutheran Brotherhood and its affiliated companies manage more than $23 billion in assets for the organization's members. Lutheran Brother-hood provides high quality financial products and services to its 1.1 million members through a network of 1,450 general agents and district representatives.

Products and services offered include insurance products such as Life, Health, Property and Casualty, other financial products such as mutual funds, annuities, and asset management accounts.

perotsystems™

Lutheran Brotherhood contracted Perot Systems to partner with them to accomplish a three-year reengineering effort. Blended teams of Perot Systems and Lutheran Brotherhood employees are developing new technology to enable redesigned service and support processes and organizational structures to refocus on the customer relationship. The customer should be able to see the company not as a series of individual departments but as a single entity focused on providing complete service.

The correspondence system, closely related to electronic forms and process automation, was one key area of intended functional improvement. Correspondence was performed by 15 separate software packages including several PC text products, causing an inconsistent feel with extensive manual labor for preparation and post processing. The lack of automated version control caused substantial coordination and management effort as documents went through their change cycle. Of the 1,000,000 letters generated each year, more than 90 percent included some manual processes before they reached the mail center.

The project team identified a number of key issues including the need for technical integration with legacy systems, archiving and retrieval of documents, letter evaluation, standardization, common letterhead and templates to achieve the "One Voice and One Look" corporate objective.

The "Request for Solution" process produced a short list of three vendors that were invited to present their solution on site. Supplemental demos to user and IT departments and reference checks with current Papyrus users completed the selection process. ISIS suggested and performed a three week Proof-Of-Concept Workshop in which a sample letter set, a user GUI, letter bundling and printing to the Xerox printers was implemented and verified.

Reasons stated for choosing Papyrus were the powerful WYSIWYG design tool with the library facilities to enhance and promote re-use of document objects, the ability to perform administration by business users rather than by IT professionals, and the strong output management features with sorting, grouping and enveloping controls with OMR and barcode. The integration of the existing Xerox 4135s and PCL network printers, with the option for future fax and e-mail distribution from a SINGLE DESIGN, were essential simplifications to Lutheran Brotherhood and Perot Systems.

The first phase of mainframe automated letter generation was successfully completed and Lutheran Brotherhood, Perot Systems and ISIS are now implementing the Windows NT based individual letter solution with centralized bundling and sorting through the Papyrus PrintPool on OS/390. Approximately 15% of the total volume of correspondence is currently using the new system.

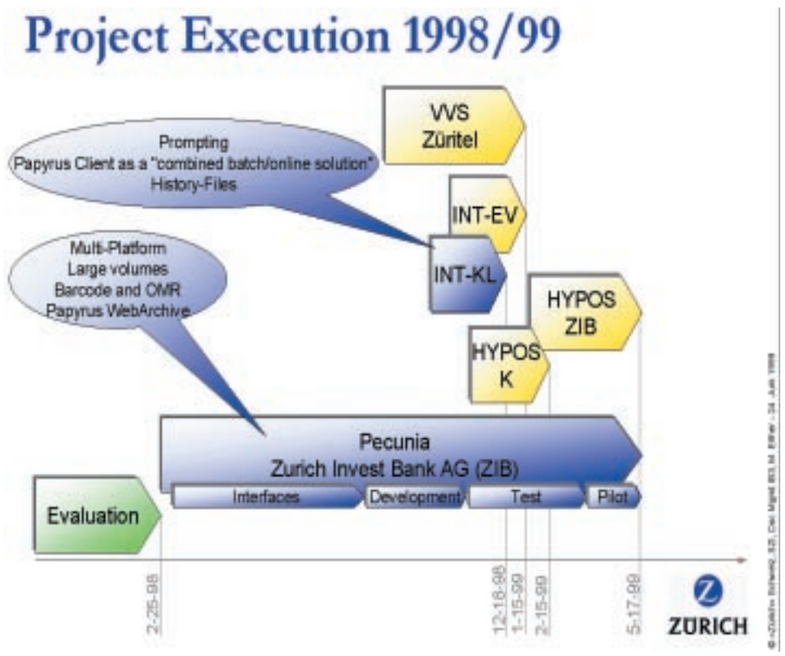
LUTHERAN BROTHERHOOD

The business benefits achieved - in addition to the improved quality of communication with the members - include increased automation and reliability, substantial reduction in labor costs and postal costs and simplified system maintenance.

Lutheran Brotherhood at the ISIS USA Roadshow:
At the ISIS Papyrus Roadshow, Cory Pederson of Lutheran Brotherhood and Roy Brandt of Perot Systems were asked some tough questions by participants. One question was if they felt that the system functioned satisfactorily and if there were any differences between what ISIS had promised and what was actually delivered. Both speakers felt that ISIS Papyrus worked as promised. Roy Brandt stated that the technical support received on-site from ISIS consultants was critical to the success of the project. To date, ISIS has provided five weeks of on-site support as well as their standard Help Desk and on-line support.

Zürich Group

More than 200 distinct documents were developed as a next step, of which 70 were implemented in four national language versions of Switzerland. Barcoding and OMR coding for the post processing was also implemented in a very short time using the Papyrus Designer features.



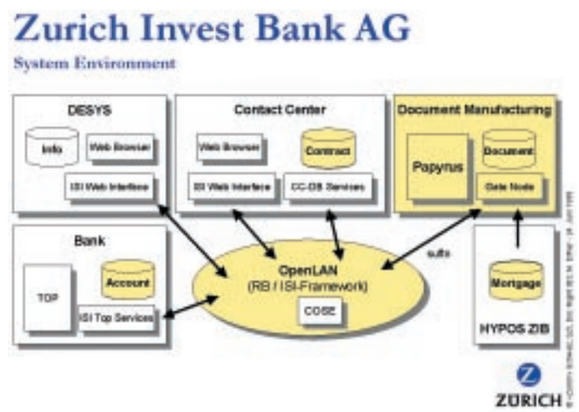
In 1997 the Zürich based IT service unit of the Zürich Group, being one of the largest financial institutions worldwide, had a long list of document related applications to build. The most complex and important was the Pecunia Project at Zürich Invest Bank AG. After some evaluation the Papyrus Document System was chosen for the projects, planned to be realized on OS/390, Sun Solaris and NT platforms.

The Pecunia Project was started in February 1998, with much of the effort related to the data gathering and the complete document management. The interface design and coding of the applications was finished in November 1998. The data is generated on the Sun Solaris and sent for document generation to the OS/390. More than 200 distinct documents were developed as a next step, of which 70 were implemented in four national language versions of Switzerland.

Barcoding and OMR coding for the post processing was also implemented in a very short time using the Papyrus Designer features. The project went into pilot in early March 1999 and went live on May 17th, 1999. Less than FOUR weeks of training and support was required from ISIS to make that project a success, proving the ease of use and speed of development of the Papyrus Designer.

But while all this was going on, five other projects were being realized each of them taking less than 3 months to realize from start to production. This included a mainframe based insurance policy application, a Papyrus Client letter system with data from the AS/400 and the implementation of Papyrus WebArchive for the transform of the documents to PDF.

Mike Elfner was the responsible project leader of the Papyrus projects at Zürich Group and in his presentation at the ISIS Roadshow in July 1999, he expressed his satisfaction with the partnership approach at ISIS and the stability of the products. He stated that a number of further Papyrus projects were lined up at Zürich Group, for example related to output management and color printing.



Playing cards? Take no chances!

Real Time Formatting and Print Server Control by Papyrus: First Data's PlastiCard Enterprise Presentation

FIRST DATA

History and Background:

First Data Resources, based in Omaha, Nebraska, is the leading global provider of card transaction processing and card portfolio management solutions that enable credit, debit, commercial, oil and private label card issuers to enhance their portfolio growth, increase market share, reduce risk and improve profitability.

Much of this business involves the embossing of cards and the printing of associated letters, as well as statements and collaterals. The handling of cards was done through the infamous "D-Holes" punched paper carriers, in which the card was stuck. While all the printing was done on mainframe, the emphasis was on "pre-press" for print solutions with just variable data added in the print process. This made the process very static and did not enable a dynamic marketing approach due to the lead time for pre-printing and coding the variable data programs.

New Requirements for One-To-One Marketing:

Over time client requirements were in need of extensive system flexibility, with the ability to communicate at the cardholder level. This would have to be enabled with marketing messaging and the support for interest rate variables and special offers with checks and coupons.

To ensure a professionally prepared and presented package, high quality laser print matched with "Clean" card affixing was the target to shoot for. Today's competition requires a shortened time to market, enabling new marketing campaigns such as "Partners" Programs and Benefits/Features schemes.

As the amount of preprinted paper for these applications rose, reduced inventory costs for the number, types and volumes of preprinted stock became an essential issue. Further it became obvious that marketing required dynamic documents, which utilize numerous data and text elements for a highly personalized approach to the customers needs. The ability to make quick document AND strategy changes without inventory hassles enabled the document to carry the convergence of numerous marketing strategies toward the customer.

real time formatting

How it was done:

FDR decided on a Document Management Solution provided through a Partnership with "World Class" Providers.
Xerox provided the paper management and printing systems for cut-sheet duplex printing. BOWE Systec installed their Card Attaching Base System with the option to utilize their Package, Assembly and Reporting System as an integrated solution when needed.
ISIS Papyrus was contracted to deliver the complete Document Design and Composition, Data Management and Resource Management software. The Papyrus Server was enhanced to communicate not only with the printer but also with the BOWE system to receive the card information which is used to generate one or more printed pages with control codes for verification at the enveloping stage. The Papyrus Server and PrintPool are the management components for the whole process from the card reader to the final envelope.

FDR decided on a Document Management Solution provided through a Partnership with "World Class" Providers.

The first implementation step was completed in March 1999, where the sophisticated Papyrus functions enabled the marketing approach:

- Conditional Logic within the Document Design
- Graphics, Logos, Images, Signatures, Boxes, Lines and Shading.
- Resource Library
- True WYSIWYG Design with Windows Based Drag & Drop
- Far East Languages such as Chinese, Japanese, Korean
- Index and Control data imbedding for Post Processing

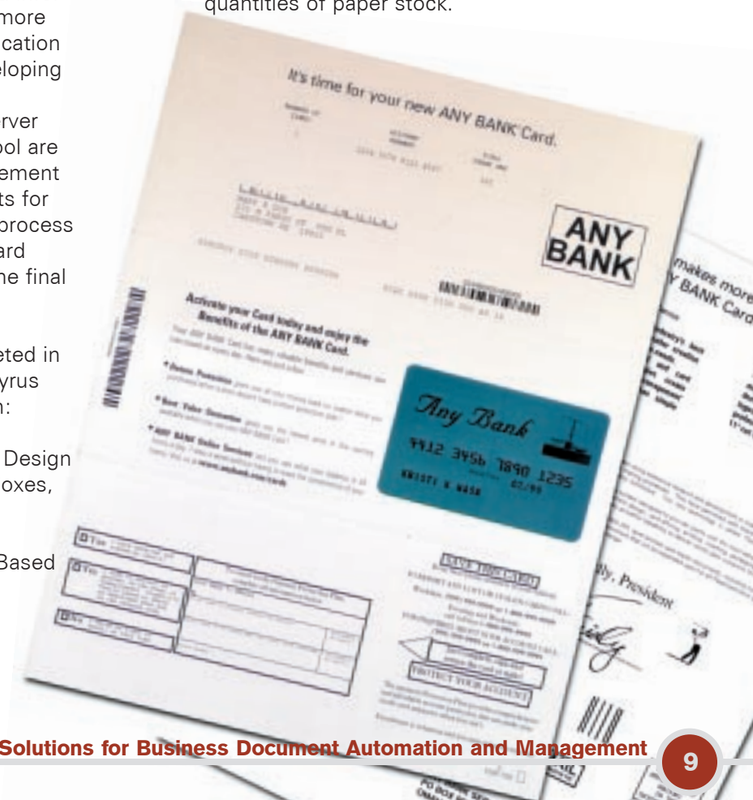
FDR stated in its press release:

"The PlastiCard Enterprise Presentation system accesses more than 300 variable data elements from account information to produce a card mailer that is targeted to an individual cardholder. Convenience and balance transfer checks, coupons and selective messages can also be printed on the mailers to help issuers increase card usage and boost revenue."

"This new system enables First Data to expand its world class plastic delivery options for our card issuers."
Timothy E. Rosenthal
Senior VP PlastiCard Custom Services

"Issuers using the new system benefit from enhanced decisioning capabilities that give them additional cardholder data needed to effectively use card mailers as a marketing tool," said Timothy E. Rosenthal, First Data's senior vice president of PlastiCard Custom Services. "This new system enables First Data to expand its world class plastic delivery options for our card issuers."

"With the new system, card issuers realize cost savings by using a variety of forms with variable template applications and two-sided printing. In addition, issuers gain operational efficiencies by electronically composing a document without the cost and time needed to replenish large quantities of paper stock."



AXA Colonia Insurance

AXA Colonia Insurance in Cologne, Germany searched for a document solution for their new 24 hour Customer Care Center.

A number of requirements had to be met, mostly related to automation of the letter generation on a server as well as letter collection and sorting for batch printing in the evening. These are not just typical letters, but they can be any kind of document required such as the "Green Card", the European International Insurance Certificate and/or sales related documents.

Papyrus had already been used for other applications and Mr. Tenfelde started off the project with ISIS consultant Ursula Prancz in April '99. The first test with a document was defined and the procedures for the postal processing of sorting, bundling and writing the OMR code were defined. This was done in May '99.

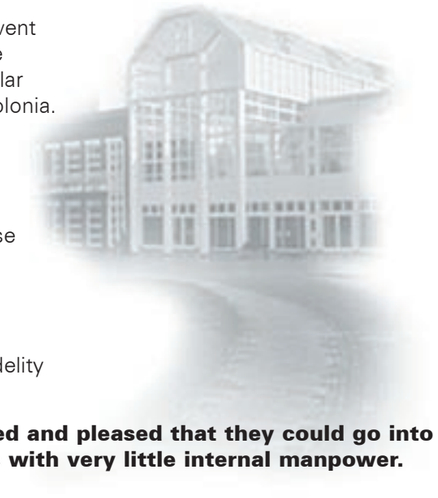
The customer application writes a request file to the Papyrus Server which then kicks off the appropriate document. To merge the data into the document the Oracle interface of Papyrus DocEXEC is used. Only the data needed for each document is read and the application does not need to know which data is required for each document, as this is defined with the document itself. In June the first set of documents was defined and tested for production.

The formatting run also writes a control record into the PrintPool log, which is used to track each document and control the sorting for the batch process. Once the daily document requests have reached a certain number the operator can manually request a print job and Papyrus will then perform all the bundling and sorting. The actual documents have already been generated and in principle a number of servers could be used to generate documents in the network and the bundling will collect the documents from all servers in the network. The operator can - if he wants to - verify the result with the Papyrus Client and then submit the job to central or network printers.

One of the main reasons to choose Papyrus, was the speed of document development and once a standard framework of building blocks was defined it was very easy to reuse these and define new letters in just a few hours. As the volumes grow Colonia expects to use not just NT but maybe other servers and also a number of different printers as well as the high-speed printers in the data center. Platform and printer independence were therefore a key criteria for long term investment protection.

AXA COLONIA

On the first of July 1999 the project went live and a number of documents are being added to the library on a regular basis by the administration personnel at Colonia.



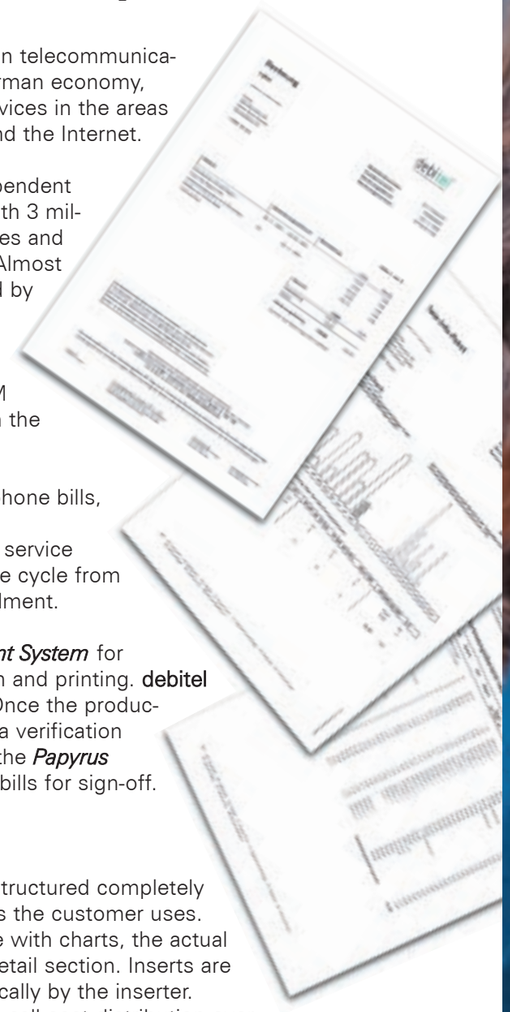
Given the scope of the project:

- Fast development environment for complex documents
- Data integration from the Oracle database
- Distributed server based production with preview
- Central bundling and sorting
- OMR coding and enveloping
- Printing to any kind of printer with full fidelity

... everyone at AXA was very surprised and pleased that they could go into production after just three months with very little internal manpower.

debitel AG

Successful Outsourcing of Telephone Bills



debitel AG has been successfully involved in telecommunications, the fastest growing sector of the German economy, since 1991. **debitel** offers products and services in the areas of mobile telephony, fixed-line telephony and the Internet.

debitel is already the leading network-independent telecommunications company in Europe with 3 million customers, almost DM 3 billion revenues and over 2,000 employees at the end of 1998. Almost 40% of **debitel's** customers are now gained by subsidiaries in France, Holland, Belgium, Denmark and Slovenia. At the end of June 1999 **debitel** had 3.85 million customers and revenues for the first six months of DM 1.7 billion - the most successful half year in the company's history.

For the production and handling of its telephone bills, **debitel** decided for outsourcing with Debis Systemhaus Drescher, a very successful IT service company, which offers the complete service cycle from document application development to fulfillment.

Debis uses the complete *Papyrus Document System* for development, post processing, optimization and printing. **debitel** supplies only the data file for processing. Once the production run has been performed, Debis sends a verification set of pages to **debitel** by email. They use the *Papyrus Client Viewer* to preview and test print the bills for sign-off.

The bill design uses the following features:

- Each bill is a consolidated bill, which is structured completely individually based on the various services the customer uses.
- The bill is structured in an overview page with charts, the actual invoice with the transfer slip and a call detail section. Inserts are added logically during printing and physically by the inserter.
- Two charts are created, one showing the call cost distribution over the month and the other one showing how the calls are distributed over 24 hours.
- The printing is done on an OCÉ spot color printer, printing logos and other bill details in the company color of **debitel**.
- Debis uses an Oracle based *Papyrus PrintPool* to perform the post processing with OMR coding and inserting and the optimization of the mail stream for maximum discounts from 30.000 envelopes per run.

Debis produces for **debitel** 60 million envelopes per month, which total to more than 200 million pages per year. The design is performed on NT design stations with production formatting and post processing running on Sun servers with Oracle database. The enveloping and inserting equipment used and controlled by barcodes and OMR codes is from Kern.

Debis also runs *Papyrus* production for other mobile phone companies such as **e-plus** and **o.tel.o** and other outsourcing print services.

Volkswagen Financial Services AG processes the financial transactions and car leasing for its four automobile brands, Volkswagen, Audi, Skoda, and Seat. They manage the complete output and print process as a service to their related companies.

The Concept

To be able to meet comprehensive print requirements of the future, including the ever increasing demands for improved print quality and layout, a new concept was developed to manage all the output needs.

The Objectives

- Migration of existing documents to the new system generated by many different applications
- Enhance and optimize printing, mailing, and franking operations
- Utilize postal rebates from Deutsche Post for daily mailings of 50,000 envelopes
- Windows NT print server

The Requirements

- Conversion of more than 1000 existing XEROX DJDE applications
- Easy integration of new documents into the output management system
- All fonts should be easily modified to accommodate 'proportional fonts' where 'fixed pitch fonts' were used before
- Centralized dispatching of all mailings optimized for postal charges
- For each postage class, the optimal number of envelopes was to be established, in order to obtain the best rebate from the Deutsche Post
- Extract franking and optimization information from the input data
- Automate handling of documents in error; an error protocol to be made available
- Generate accompanying postal transmission forms in conformance with Deutsche Post guidelines
- Direct control of the 600 dpi OCE PS 235 IPDS printer
- Print queue management.

The Solution

Together with Volkswagen Financial Services ISIS defined an interface to handle net data. Printer and platform independent documents are developed using Papyrus Designer. The processing information required to calculate the postal charges, to optimize these, and to suitably merge documents, is extracted from the input data when formatting and passed to the PrintPool through the document index.

Papyrus Designer enables easy definition of the document index needed for bundling, reprinting and distribution of different document types.

Volkswagen Financial Services

Papyrus PrintPool is the key component for collection, postage optimization, and printing. Because of the great variety of tasks involved, implementation takes place using an Oracle database. This allows the print status of each document to be monitored and tracked. Any document in the print pool can be version-controlled, displayed, printed, and finally bundled for postal discounts.

The Papyrus Server automatically handles all tasks from formatting with Papyrus DocEXEC, to storing documents in the PrintPool including OMR postal machine controls.

Papyrus PostCalc uses the PrintPool tables to establish the optimal number of envelopes, calculate the postal charges, and to create print lists for each postal charge category, classified according to sorted zip codes and to sorted zip code groups.

Papyrus DocEXEC Bundling application uses the print lists to extract the documents from the PrintPool database and add the post-processing information including franking information and control characters for further postprocessing (enveloping machines, franking machines, cutters and sorters.)

Certification by Deutsche Post

Papyrus gets postal information from a profile, maintained by the user, in order to easily accommodate new paper types, mail products, or postal charges. Papyrus PostCalc logs all relevant data and creates the forms that accompany the dispatched documents. Papyrus PostCalc was developed in close cooperation with the Deutsche Post.

Post-Optimization Criteria

- Number of envelopes of all VWFS clients within a postal charge classification
- Dispatching priority (0,1,..., N) days
- Merge of documents for a common address
- Merge of letters and invoices in non-determined quantities from different input files
- Document supplement control (mandatory and optional supplements)

Production printing on OCE IPDS 600dpi printers

The bundled AFP print data stream is printed to IPDS by the Papyrus Server, which controls the OCE printer directly in 2-UP mode via a Barr channel card. The envelope checking process is manually initiated by the operator after successful printing and putting in the envelopes. PostCalc establishes the quantity differential for automatic post printing. Papyrus Server prints documents plus resources to PCL with dot accuracy, then routes these to decentralized network printers.

Substantial postal savings resulting from optimized printing and mailing

Usage of JAVA Technology

Via the PostCalc JAVA GUI, all processing steps can be queried and manually executed including:

- Envelope/document reconciliation
- document volumes in database
- Selection of document input
- deletion of deliverable documents
- Post-print of bundled documents
- Handling of partial documents

ISIS provides this solution on many system platforms.

Competitive Customer Documents in the Finance Sector

The key to success in today's very competitive finance sector is the capability to offer new products and services to customers fast and efficiently. Related business documents, like bank statements or loan agreements, play a strategic role in the business process, as banks have moved to self-service methods such as electronic bank tellers and Internet services. Customer documents become the primary communication vehicle.

Business documents have to be of high quality, contain detailed and well structured information and a unique content for every customer. Targeted marketing information, dynamic charts produced from business data, spot or full color statements, which are often produced for priority customers only, are common requirements today.

Consolidated Statements

A good example of such a service strategy is Citibank's consolidated bank statement. It contains not just the current status of one account at a time, but summarizes and details all the customer's accounts down to the scanned images of all cancelled checks. At the same time it uses the same document to inform of the bank's new offerings and services by including marketing messages targeted conditionally on the customer's status.

And there is more

- Detailed and summarized information on various different accounts; savings, credit card, loans, investments, etc. in a consolidated document
- The account status is presented using bar and pie charts
- 200 different marketing messages produced with PC text products are selected per customer status and dynamically incorporated into the flow of the document
- All cancelled checks are scanned and printed as image with the statement
- The statement is generated in the customer's own language - even Chinese or Japanese in the same print process
- High volume statement printing on several different system platforms and printer types
- Automatic document indexing for archiving on CD-ROM

What are the benefits?

- Cost savings by printing and mailing only one statement per month
- Marketing information is already integrated and does not need to be mailed separately
- The customer enjoys a high quality bank statement with an excellent overview of his finances
- The customer can immediately verify the checks issued from his account

How are these benefits achieved at Citibank?

A simple application program was written to extract account records into a single data file. Using sort headers, such runs can be performed and merged several times, while a sorted document sequence can still be achieved. Citibank uses the Papyrus Designer to visually and graphically design and maintain the data input format, the statement definition, and the conditional document logic. High performance statement formatting is performed by Papyrus DocEXEC either on MVS/ESA or Windows NT (for the check image application), with AIX as further choice. Production printing is controlled by Papyrus Server to high speed IPDS printers. Some Citibank locations use Papyrus Server to drive Xerox Metacode and PCL cutsheet printers.

Summary

Citibank AP has been one of ISIS long term customers. The first document application went into production in 1996 in Singapore. Since then, Citibank AP has developed numerous business documents for use throughout Asia Pacific and Eastern Europe. In several of countries the Papyrus Print Server provides flexible output to different printers. Due to the very positive business relationship over a number of years ISIS just recently received a new software order for Citibank's European Credit Card statement.

Special Features used in the Citigold Application

- ✓ DBCS support: Chinese, Japanese, Korean
- ✓ Print mixed mode: English and Chinese on one page, even in one line of data/text
- ✓ Consolidated statements include 26 different account types
- ✓ Marketing Messages are generated by the marketing department in MS-Word and placed conditionally depending on the status of each account type
- ✓ Check image printing: Checks are scanned in TIFF, converted directly to IOCA by the formatter, resized to fit the available space and printed at the nominal speed of the printer
- ✓ '1 of n' page numbering
- ✓ Dynamic bar and pie charts from data input
- ✓ Print document to IPDS printers, Xerox Metacode printers and PCL LAN attached printers using Papyrus Print Server

Hapag-Lloyd

Hapag-Lloyd, one of the worlds largest shipping companies with its headquarters in Hamburg, Germany started a project to unify and modernize its worldwide printing of business documents produced by its mainframe applications. Papyrus Host was the choice to distribute the business data from 3 MVS hosts to 100 worldwide installed Papyrus Print Server on NT. The Papyrus Server merges the business data with the electronic forms, fonts and logos previously developed with the graphical OverView AFP Designer centrally in Hamburg/Germany for all languages.

A distributed printing solution using Papyrus at HAPAG-LLOYD

Recently Hapag Lloyd has added the Papyrus Server/Fax solution in Germany, Singapore, and USA to allow faxing of existing documents using fax machines from TopCall.

The Customer

The international shipping company Hapag-Lloyd, is in the business of intercontinental containerized door-to-door transportation and tourism. The total revenue for the fiscal year 1998-99 amounted to 17.8 billion Deutsch Marks.

The Requirements

"*In the core application for world wide liner services, the print data produced centrally on MVS has to be distributed electronically to our geographically decentralized offices around the globe*", says Mr. Norbert Karden of Hapag-Lloyd when talking about the requirements for a new enterprise-wide document solution.

It was required to offer speed and high flexibility for the design of the many different shipping documents in many languages for the enterprise, and the printout of these in laser-printer quality. The main demand on the printing solution was the support of the various existing printer hardware used at the Hapag-Lloyd worldwide offices. These should not have to be changed for the new printing system. The solution must provide flexibility for the future to support a wide range of standard printer hardware.

The ISIS Proposal

ISIS proposed to use its OverView AFP Designer Suite to develop the documents in a printer independent manner. The Papyrus Host and Papyrus Server are used for remote printing with automatic distribution and conversion of forms, logos and fonts at time of print. All applications conform to the IBM AFP standard.

The Solution

In Hamburg a central group manages the development of all resources such as forms, logos, fonts, and data-layout utilizing the graphical capabilities of the OverView AFP Designer Suite.
Papyrus Host using the standard FSS interface to JES2, provides Hapag-Lloyd with the management of the print resources between the mainframe and the remote print server and the distribution of the business data. Papyrus Host offers central definition of new printers located in any of the worldwide offices, and secures that all print resources are available at the remote server at time of printing or faxing.

Highlights

- Fast and flexible graphic design of print applications combining forms and data in AFP standard.
- Guaranteed look of the printed documents on all laser printers and fax machines
- Using the same AFP resource library (fonts, forms and logos) at time of development and at time of print to any type of printer
- Investment protection: Support of existing and future impact and laser printer hardware
- Platform and printer independence
- Fully automated and controlled distribution of resources and data to remote print servers from MVS JES2
- Fully automated batch fax solution

Summary

"*Through the flexibility of the Papyrus solution, we were able to change from line-oriented printing to page printing using Papyrus Host and Server without interfering with our legacy print production. This made decentralized forms and graphics printing possible at all local offices*".

Says Mr. Karden of Hapag-Lloyd.

Mutual Life of Canada*, the lead company of the Mutual Group, markets a wide range of financial products and services including life insurance, investment products, employee benefits, disability management services, financial planning, annuities and pension plans.

FASTER ON THE MARKET WITH LESS DEVELOPMENT TIME

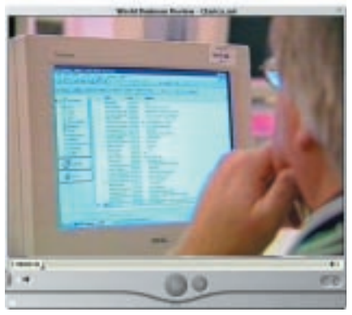
A Solution for the Insurance and Finance Sector

The mutual group is a leading financial institution in Canada and the United States with business development under way in the Asia Pacific.

Key Decision Criteria For Papyrus:

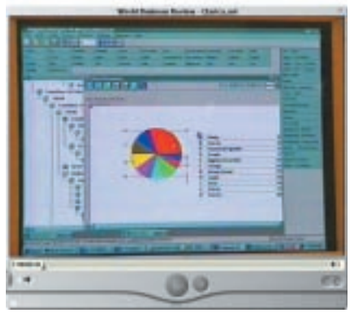
- Fast development time
- Manageability
- Product maturity

With PC based tools such as Excel and Access capable of doing charts and graphs, the expectation quickly moves to the mainframe based products. The DCF which was used until now by the company for complex applications and better output appearance was just not satisfactory. Generating table of contents and "Page 1 of n" support on a statement to statement basis was also not possible.



The creation of a DCF tag file as input took the company's developers up to 10 days on the average. It was desirable to eliminate this time and to gain instant feedback of the development cycle.

Total separation of the application from the output format to provide total functionality, flexibility and accurate documents for the lowest possible cost was the company's goal in the selection of a desired product.



The Solution & The Benefits

To bring manageability under control, ISIS set up for the Mutual Life, Papyrus DocEXEC formatter on MVS Host and installed Papyrus Designer on Win95. The ability to include and re-use components in common libraries, i.e.. OMR markings for mailings are included by all production applications. Further, everything is either AFP format or a text file which means that programs generate the appropriate codes or font definitions for the user.

Excellent national language support illustrated to Mutual Life, the completeness and maturity of the ISIS product family. The fully integrated GUI designer offers unlimited possibilities to get everything done without leaving one application and entering another to do a particular function. This includes the task of performance profiling and application debugging.

* Mutual Life of Canada is now Clarica

A Papyrus user report by Don Maxwell of Mutual Life of Canada.

Re: Our Year End Production.

Hello Roberto..
Just thought you might be interested in knowing that we have just completed the running of our first high-volume Papyrus DocEXEC MVS application.

Some of the things we use:

1) We are doing table of contents on the front page, so this implies we format the first page last, and then use the "PLACE AT" function to get that page to the beginning of the page buffer.
2) At that time we check the number of physical pages to determine which postage class (output file) the statement should go to. The break points are 1-5 pages, 6-8 pages, and >8 pages.
3) For each of the above output files, we also check to see if we have written 10,000 pages to the file. If we have, we close off the file, write an instruction sheet for our mailing machine inserter operators (containing # pages, # envelopes, etc) and start a new instance of the file.
4) We have a MESSAGES file that is used as a checklist by the printer operators to ensure they have all the output.. This is a WRITE to LOG file that contains the set number, the number of envelopes and the number of pages.
5) We flip back and forth from 1-column mode to 2-column mode.
6) The OMR marks are totally done by re-usable routines ... these are all INCLUDEd and they are the AIM*.DFA files.
7) We had to do some extra parsing of the input data due to transactional items and execute special widow/orphan controls.

It maybe interesting for your users to say that we did this with 30 days of development effort, and we were not 'well experienced' DocEXEC users. We did a lot of learning on this application, but we're pretty pleased with the results, especially the fact that it does all of this in ONE PASS of the data file.

Some trivia statistics:
We ran about 1.8 million impressions of output. We had the job split up into 12 MVS batch jobs, and the total elapsed time was about 7 hours.

My clients are VERY pleased with what we accomplished, with the robustness of the product, the throughput, and how quickly we got it all done.

They are also thrilled with the output.

Statement Formatting at The Mutual Group "A Year in Review"

Don Maxwell, The Mutual Group

About Mutual

- AFP shop since 1986
- 60 million impressions/year
- 3 Xerox IPS 4635, 2 IPS 4890 Hilite Colour printers
- 100 IBM AFP distributed printers
- All are driven from PSF/MVS
  - We do this by choice
  - Management costs of multiple small servers are too high
- First Mutual insurance company in Canada
- First in Canada to announce "DeMutualization"
- Product Line
  - Retail life insurance
  - Group and individual savings and retirement
  - Employee benefits

The Way It Was (1987 - 1997)

- PPFA/OGL
  - Quite restrictive
    - No word wrap, numeric formatting, tables, center/right/full alignment with proportional fonts
    - Very poor conditional processing
    - Application tied to output appearance
    - Expensive to develop/maintain
    - Only the simplest apps (form+data) fit in this class
  - but it was really fast and cheap!
- High End Applications - DCF: had its drawbacks
  - Slow development cycle (code/format/print)
  - Required "tag" (specialized) input file
    - No ampersands/semicolons in data, all numbers are preformatted, all totals are pre-calculated by application
  - Performance issues
  - Lack of function
    - No dynamic charting, no numeric formatting, single output file, poor string manipulation
    - Not WYSIWYG development

June 1997

- Went looking for a new tool
- Highest requirements
  - All the regular stuff
    - Charts, word wrap, GUI design, flexibility, performance, scalability
  - Plus
    - Must be manageable over the long term
    - Significant reduction in development effort
    - Reduced time to market

July 1997

- From our RFP we chose Papyrus from ISIS Papyrus
- Trial of Papyrus Designer and Papyrus DocEXEC begins
- 5 day training course
  - We then built our first application as a proof of this technology
  - "Throw away application" to minimize risk
    - 20,000 impressions, one time shot - 3 days effort

November 7

- Papers signed!
- 1 Papyrus DocEXEC implemented on MVS
- 2 Papyrus Designer packages for Windows 95

November 21

- 1st production application implements!
  - Employee Benefits Billing system
    - Widow/Orphan control
    - Dynamic headers and footers based on data
    - Excellent appearance - new fonts
    - Subtotals calculated when account information changes
    - Summarization of data - totals/subtotals/taxation
    - Dynamic formatting of text - floating sections
  - English/French in the same stream
    - Same logic is used for both languages
    - Data file is independent of language
    - References to constant text are dynamically resolved to the appropriate language
    - Numeric formatting is different for English and French - $1,234.56 vs. 1 234,56 $
  - Dynamic columns based on summarization of data values

December 1

- Development of generic reusable routines for our mailing machines
  - Automatic determination and sorting to different postage classes by weight
    - Lightweight - 0-5 pages, including inserts
    - Medium weight - 6-8 pages, including inserts
    - Overweight - >8 pages
      - Runs in different mailing machine configuration (9x12 envelope)
      - Different OMR mark position/direction
  - Multiple batches of output (every <n> pages)
    - Allows for parallel print, manageable chunks of output
  - Automatic control sheet generation for mailing machine operator
  - Impression numbering, envelope numbering
  - Sequence checking encoded inside OMR marks
  - Everything configurable at the JCL level
    - When to split, how many splits, operator instructions
  - Development effort? 8 hours!

December 31

- Mutual Fund Statement implements
  - Totally dynamic formatting
    - No overlays possible
    - One section starts where the last one left off
  - Table of contents unique per statement
    - Accomplished via page repositioning - not 2 passes
    - Format 1st page last and position at front of set
  - Page <n> of <m> support
  - OMR support, mail splits, with reusable code
  - Mix of 1 column and 2 column
  - Dynamic table columns based on data values
  - Widow/orphan control
  - 2 million impressions - formatted on MVS system in under 7 elapsed hours
  - 93,000 impressions/CPU hour (60 MIP engine)
  - 30 days of development (10 days were learning)

January 9

- Annual Mortgage Statement implements
  - 100,000 impressions
  - Xerox 4890 IPS Hilight Colour
  - Definitions page - totally conditional, lots of word wrap
  - English/French with same logic
  - 5 days development effort includes
    - Meetings, design, coding, testing, implementation
  - 1 CPU hour to format: $0.006 per impression

January 15

- Mutual Investment Portfolio Product
- Formatting
  - Floating sections - no limit to the number of them
  - Dynamic formatting
  - Widow/Orphan control
- Mailing machine support - totally reused existing routines (20 minutes effort)
- Total development effort - 4-5 days

March 11

- Purchased an existing block of pension business
  - Needed to welcome our new customers
  - Confirm beneficiary information
- The application
  - Constant cover letter and information sheet
  - Mapping of old/new funds, personalized, with widow/orphan controls, splits for postage
  - 2 days of development effort

May 15

- Prepare for semi-annual run of Mutual Fund Statement
  - Adding several new sections to the statement
  - Development area asked for 45 days of statement development effort
  - We completed all the changes in 3 days!

And so on... And so on...

- Many more applications since then
  - None more than 5 days
  - Customers "thrilled" and "blown away" at the speed at which we can develop applications
  - Application changes aren't discussed in meetings
    - We now sit down at a desk with the designer and make them while they watch
  - We have started doing "one shot" mailings for our sales force
    - What's the smallest number of envelopes you would use your high-end formatting tools for? 2000? 1000? How much time would this take?
  - We are now doing "one shot" jobs down as low as 200 envelopes
  - They supply word doc (content) and Excel (data) files
  - We do them faster and more reliably than they can using end-user tools such as Word
  - 1/2day to "in the mail"

Papyrus Postprocessing

- Licensed the "Postprocessing" option
  - "Inhale" one or more AFPDF files
  - Combine, sort, merge, split files (at a page level) into a new set of output files
  - Add data to page (OMR marks, impression numbers, envelope numbers)
  - Average effort: 1-2 days, in production!
    - Includes marking of BNG/ENG and TLE, JCL, everything!
- We have a "monolithic" system that produces agent commission reports
  - Incredibly difficult to add new reports in as they had to be included "from the top down"
  - It was easier to generate a new report and manually collate them together. So we added a report
  - And another report... and another report
  - Until the sales force doubled overnight...
  - Mutual purchased the Canadian Operations of MetLife Canada:
    - New estimates to manually collate reports for this bigger sales force were 6 days (not 3)
    - We needed another solution. We licensed the Papyrus Postprocessing option.
    - The idea: Let the process run as it does today, but capture the AFP output and mark beginning/ending of sets with BNG/ENG and TLE using ACIF
- The postprocessor does the rest:
  - Read in all AFP pages, create an index of agent numbers, branch, and document order
  - Produce a new document by pulling in all pages for an agent, and reuse all OMR support we have today
  - Statement development effort: less than 5 days
  - Found one bug during development; received new version of formatter next day via email!

Where the Savings Come From

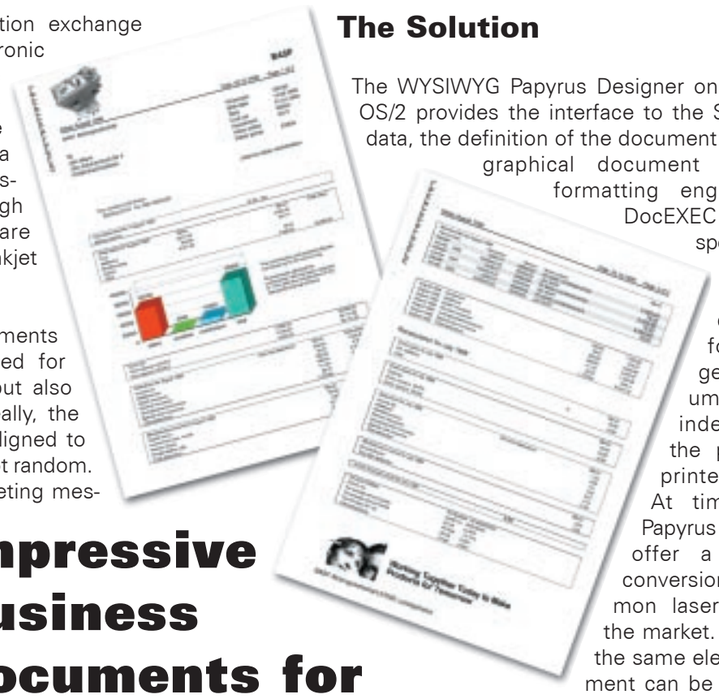
- Simpler file format (50%)
  - No tag file, no reserved characters to convert
  - All numbers can be packed decimal, not picture
  - First run of test file through formatter almost always runs clean
- OMR/Mailing machine support (20%)
  - Envelope numbers, impression counts
  - Splits based on weight - one pass
  - Instruction sheet for operators generated automatically including all balancing
  - #10 and 9x12 envelope support
- Development effort (30%)
  - No code/format/print loop
  - GUI development - Drag and Drop environment
- Other - Not quantified
  - Time to market
  - New Function - page <n> of <m>, charts, graphs
  - Better looking, more accurate (visually) because it's easier to do than with DCF
  - Never have to sacrifice maintainability for performance on large jobs

Why We Choose ISIS Papyrus

- Single GUI
  - Not multiple products to view/code/debug
- Immediate feedback - no save or recompiles required
  - Logic, fonts, positioning
- Accuracy of the viewer
- Windows "linked" together
  - "Context sensitive" mousing!
  - Easy maintainance; point at what you want changed, right-mouse on it, and change it. No searching!
- "Logical page architecture"
  - A better N_UP than AFP Enhanced N_UP
    - Better conditional processing than PPFA
    - Ability to debug and trace
    - Not as confusing; visual feedback
    - Don't need special printers to support it
    - Still provides isolation from application layout

- Logical page architecture idea:
  - 1st define a bunch of logical pages
    - Any rotation, size, or positioning on the sheet
    - May be on the front or the back of a page
    - May be one or more per page, and can define multiple logical pages across many sheets of paper
    - Each sheet may be from a different paper tray or duplex technique
  - Assign each logical page in an order (1-n)
  - As each logical page fills up with data, DocEXEC automatically moves to the next one
  - Can be written so that your "formatting" doesn't care or know anything about the way the pages are ordered/selected
  - Can be used to do both static and variable imposition!
  - **Tough to describe - Must be seen!**
- Function
  - Shaded text (foreground and background, b/w or color), rotated text (any angle), color text (fixed and variable!)
  - Building pages in memory allows:
    - dynamic repositioning of pages
      - Table of Contents in one pass
      - Multiple copies support in one pass
      - Further tailoring of each copy using PRINTFOOTER > page <n> of <m> support - in one pass
- Flexibility of input file
  - Character or packed fields, columnar or delimited fields (including CSV from PC packages!)
    - Agents supply Excel files for data, Word docs for content
  - Input is controlled by a complete programming language
    - Dynamically change input format based on data!
    - "Sniff" the data stream, and respond appropriately!
- Management
  - Performance profiling
  - Debugging - single step, breakpoints, variable inspector
  - No proprietary or intermediate file formats
    - Just AFP and Text
  - Text based source code
    - Source code generators for data definitions
    - Manage, backup source on MVS
    - Impact analysis is easier than with BLOBS
  - "Rule of thumb" at Mutual that any application cost the same to procure/implement as the purchase price
  - In our case, the implementation effort was 1/10 of the purchase price
  - routines can be externalized and included at compile time
    - Reuseable routines that can be change enterprise wide all at once

It Just Runs.



Impressive Business Documents for SAP R/2 and R/3

At a time when information exchange with customers via electronic media is dominating the marketplace, printed business documents are still the primary vehicle for providing a corporate image to customers. Expectations for high quality color documents are rising because of PC and inkjet color printers.

In general, business documents should not only be designed for clarity and understanding, but also for marketing purposes. Ideally, the inclusion of information is aligned to the customer situation and not random. By including individual marketing messages and inserting promotional materials, considerable savings in postage and handling expenses can be achieved.

Papyrus provides a total solution for SAP business documents. Impressive documents, that are easy to read, are rapidly developed from SAP data. Printing can take place on any platform with the printer of your choice. Bundling and merging of pages from SAP with other document applications is fully supported to optimize mailing operations and postal discounts. Archiving and distribution are available in a variety of media, including CD-ROM and the Internet.

"SAP capabilities for generating impressive customer documents are very limited", **was the opinion of a German ISIS customer talking about the status quo of his SAP business documents.**

The Solution

The WYSIWYG Papyrus Designer on Windows or OS/2 provides the interface to the SAP business data, the definition of the document logic and the graphical document layout. The formatting engine Papyrus DocEXEC allows high speed document production on eleven different platforms. The generated document format is independent of the platform and printer hardware. At time of print, Papyrus Print Services offer a transparent conversion to all common laser printers on the market. Furthermore, the same electronic document can be archived and presented on the Web. Output management functions are achieved by adding OMR and barcodes.

An integrated solution

- Maintain the corporate image through standard document design
- Fast and flexible development of documents on a graphical workstation - no coding required
- Document format is platform and printer independent
- Conditional placement of marketing information
- Dynamic generation of chart graphics from data
- Viewing, printing, faxing and e-mailing of documents
- Electronic forms to reduce printing and handling costs
- Integrated archiving and Internet distribution
- Adding OMR and barcodes
- Distribution of documents using CD-ROM

The Benefits of Papyrus

- Substantial time and money savings due to user friendly graphical design
- Re-use of document elements for different applications
- Include marketing messages
- Improve understanding of content by presenting the data with a chart
- No programming in SAP is needed
- Printer and platform independence
- Elimination of preprinted forms
- Perfect viewing of documents and printing of documents on the Client PC

Many of the worldwide SAP users have successfully implemented Papyrus as their corporate document solution. For more information on Papyrus and SAP, review the detailed implementation report by GPU Energy on page 34.

COMPLEMENTARY SOFTWARE SAP BAPI CERTIFIED

High Quality Direct Mail Services Redefine an Industry

Due to the very competitive nature of their marketplace, direct mailing companies have very specific requirements. The most important factors are quality, cost and speed. To be successful, tools are needed to produce a printing application in a very short time and print it in the most cost effective way on a variety of printer hardware. Naturally, all the client's design requirements related to fonts and layout have to be met, usually yesterday.

The Requirements:

- Fast and flexible document design and formatting
- Standardizing on one final document format to be printed on different platforms and printers
- One resource library for all printers
- Use of the existing Xerox, IPDS and PCL4/5 printers
- Use of competitively priced server platforms
- The best possible software support

Looking at **Stroede Data**, one of the largest direct mailers in Sweden, a new direction in this service industry can be found. Stroede chose the Papyrus Document System after using in-house developed software and Elixir. They now develop print applications in different locations (Kungsbacka, Stockholm, Oslo) and print these applications to IPDS, Xerox and PCL4/5 printers without considering the target printer at development time.

"We were looking for the best software product and the most technically advanced vendor to provide Stroede with a complete printer independent direct mail production solution", says Sven Meurlin, Production Manager at Stroede Data. "We found that ISIS and their Papyrus Document System provides all the services and functions we need".

Key Decision Reasons:

- ISIS has the highest standard in AFP technology
- Fast WYSIWYG development of new direct mail document applications
- Impressive design functions to meet critical client's design requirements
- Virtually unlimited data interfacing options including multiple record types and substitution tables
- Printer independent document development, only one resource library
- Printing transparently to the existing Xerox, IPDS and PCL4/5 printers
- Multi-platform product availability
- The capability to put all print output to tape if required

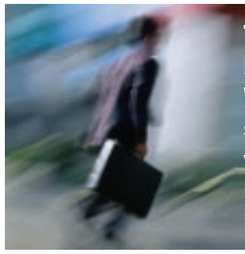
"One of the key factors was the software support offered by ISIS". says Mr. Meurlin. "In our business we need to get immediate help, if a problem arises. Because time is money! After having used Papyrus for almost a year, we are very happy with the immediate and very knowledgeable support received from the ISIS Competence Center in Austria".

The Solution:

Stroede designs their clients applications with Papyrus Designer. It enables Stroede to develop dynamic, multi-page documents as well as forms with simple data-placement through OGL/PPFA functions. Adobe and TrueType outline fonts can be converted to a printer independent AFP resource library. The document formatting into standard AFP-DS with indexing is done by Papyrus DocEXEC on OS/2 and NT servers. Production printing is available for IBM PSF and with Papyrus Server transparently to IPDS, Xerox Metacode and PCL4/5. The Xerox 40xx printers are directly driven by an IBM S/370 channel card installed in OS/2 servers or by writing the Metacode to tape for offline printing.

Summary:

Many direct mail companies are successfully using the powerful document development capabilities of Papyrus to serve a very competitive market. The freedom of choice for printer hardware and operating systems enables a scalable solution based on business demand.



The insurance sector more than any other depends on the relevant business document to be printed when and wherever needed. Without the filled out application form or the signed policy there simply is no business. Many of our large insurance clients world-wide request a corporate business document solution that can be used identically for mass production and on the notebook PC of the insurance agent.

Mainframe and Client/Server Document Production in the Insurance Sector

These needs have led VGH in Hannover, Germany to set up a joint service company called ivv with eight related public insurers, using ivv's dp-services to strategically rebuild their insurance applications and document production for a platform independent future. While the insurance applications are developed in-house, the document environment was decided to be provided by a standard multi-platform product. The new system runs on MVS mainframes and several thousand PC's in their main and branch offices.

The Requirements:

- High volume document formatting on mainframe and server with the best possible result in formatting time and CPU usage, while guaranteeing document quality across platforms
- One-time WYSIWYG development of document and resources such as text elements, forms, fonts, logos, document logic, and so on, to be used from the mainframe to the PC
- Incorporate text generated with mass PC text products into the insurance documents
- Make the same forms (overlays) used for printing on the mainframe available on the client PC
- Enable documents read/write database access using standardized API or DDE functions
- Text building-blocks to be selected by the user from a catalog
- Build interactive documents which prompt the user to fill in or add data to a selected document
- View the generated document on the client PC and print either locally on the LAN server, or consolidate documents for merging and mass printing on a mainframe printer
- Give users access to previously generated documents in an archive, while maintaining the document's original content and quality

The Benefits:

- Development cost savings by defining the document only once and using it on the mainframe, on different server and PC platforms
- Management effort and cost reduction as only one resource library is developed and maintained
- Increased flexibility because text is easily defined by different users
- Full control of the corporate document design and the document content on the user PC
- Improves customer response and service quality by providing ad-hoc document generation

How are these benefits achieved?

To enable the platform independence, IBM MO:DCA as used by the Papyrus Document System, was chosen as the base architecture. In this manner documents are not dependent on a certain operating system platform.

All documents and related resources such as fonts and forms are developed using the Papyrus Designer with it's 100% WYSIWYG capabilities. Mass production and user-interactive documents are developed with the same design tool.

The Papyrus DocEXEC formatting engine is used on all platforms such as MVS/ESA, OS2, Windows NT, 95, 98, 2000 and 3.1 to ensure absolute document reproduction. The Papyrus Client enables simple text entry, document viewing, data merging and formatting, and local printing of standard customer documents.

Summary:

"We have chosen ISIS to build our company's document solution after evaluating ten different document products",

says Mr. Scholz, Project Manager at ivv.

"The Papyrus Document System provides a standard architecture and a clearly defined strategy across all platforms with simply the best tools for document application development."

Electronic Communication Meets the Printed Document

Not so long ago it was a privilege to have one telephone per household. Today in western countries many households have several phone lines or phone types which they use. The market for cellular phones and pagers is booming as never before.

This leads to an interesting paradox, where companies specializing in electronic communication depend on high quality printed matter to perform their business.

Even though this may sound incredible, most telecommunications companies would not be able to invoice the majority of their customers any other way. Additionally telecom companies are facing government deregulation of telecommunication services. It is the new competition which now causes these providers to look for better ways to serve and market to their customers. The monthly or other types of regular invoices are such marketing means.

The Requirements

- Fast and easy graphical development of the bill
- Formatting in high volumes on a variety of platforms
- Merging of data files into one document
- Use any kind of data file (Edifact, TIMM, ASCII, XML..) without data tagging
- Merging conditionally marketing messages into the body of the invoice
- High speed formatting...
- Viewing, reprinting, faxing and e-mailing the bills
- Internet bill presentment
- The customer has a choice to either receive the printed bill or receive it electronically via the Internet
- Better presentation of bill information by using dynamic charts and color

ISIS has implemented the Papyrus Document System for bill production and presentment at many large telecom providers worldwide. **AMS American Management System** has chosen Papyrus as their standard document system for Tapestry. We have worked with other billing systems such as LHS at **Maxis** in Malaysia or Keenan at **Telephonica del Peru** and we have successfully used different business data formats like EDIFACT or TIMM. Telcos like **SwissCom** are producing over 200 million pages a year on an OS/390 mainframe, **Mannesmann Archor** in Germany using HP/UX, German **DeTe Mobile** DEC Alpha and **Belgacom** WinNT. Many of them are using very sophisticated layouting functions with conditional marketing messages, charts, color, consolidation of all services in one bill, table of contents, 1 of N page numbering and certainly they all require national language support.

Key Decision Criteria for Papyrus

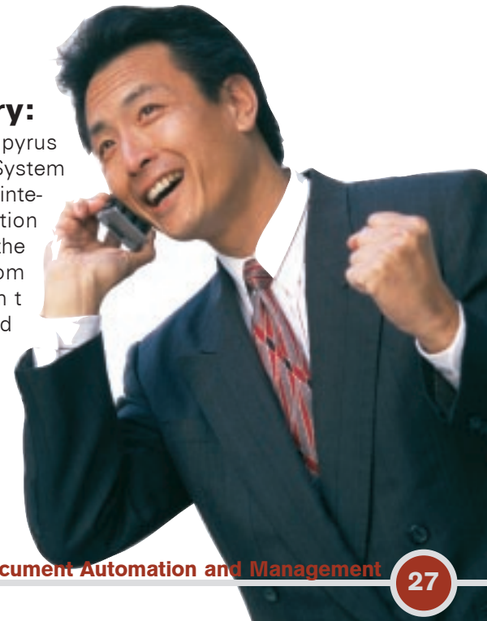
- Fast and powerful graphical development of bill application on a PC platform
- One time development for all output targets including the Internet
- Very flexible data interface, no data tagging!
- No coding required, powerful visual programming is provided
- Many different dynamic chart types and color options
- Bills are generated in a printer and platform independent electronic format
- Choice of 11 platforms from mainframe to NT for formatting
- Powerful national language and codepage support
- Automatic generation of document index by DocEXEC
- Perfect viewing and reprinting, faxing or e-mailing of bill covers customer care requirements
- Print transparently to IPDS, Xerox Metacode, PCL, PS and Scitex IJPDS
- Control fields, XML and the printable document are generated at the same time
- Companies can provide an Internet based service where customers can see their bills and statements as XML data content or exactly as they were printed using a browser in PDF, GIF or AFP format

The Solution

- Development of all document types with the Papyrus Designer Suite of products on WinNT/95/98/2000
- High volume formatting of documents with Papyrus DocEXEC on OS/390, SUN Solaris, HP/UX, DEC Alpha, AIX, SCO UNIX, NT and OS/2
- Printing can be done using Papyrus Server or any other AFP compatible print service to IPDS, PCL, PS, Xerox Metacode, Scitex IJPDS
- Internet based Print/Job and Spool Management is provided by Papyrus WebControl
- Documents can be stored with index in the Papyrus Printpool and Papyrus WebArchive for reprinting, e-mailing, faxing and Internet presentation in PDF, GIF and AFP format
- An XML interface offers linking to other archiving systems

Summary:

The Papyrus Document System is the most integrated solution for state of the art telecom document design and printing.



BANK OF SCOTLAND

A standardized printing solution using Papyrus

Bank of Scotland, established in 1695 is one of the oldest surviving UK clearing banks. Recently, the Bank started a project to re-engineer its branch accounting system on MVS. Papyrus DocEXEC was chosen to format the different documents. Papyrus Designer develops and tests the document applications in a PC environment before being loaded in exactly the same format onto the mainframe for production formatting and printing.

BANK OF SCOTLAND

The Customer

The Bank of Scotland group includes Capital Bank plc, Bank of Wales plc and Bank of Western Australia Ltd. Its headquarters are in Edinburgh and the Bank employs approximately 21,000 staff within the group. In 1999-2000, the Bank's UK market share rose to 7%, the 19th consecutive increase.

The Requirements

Bank of Scotland's branch accounting system dated back to the 1970's and was in need of replacement. As a consequence of purchasing a solution, it was established that files produced for customer statements and letters within the new system could not be satisfactorily printed on the Bank's printers in their raw state.

"Bank of Scotland chose Papyrus for its user friendliness and the speed that development could be completed. Within 2 weeks, our statement development was done, and we were ready to run test data through the Papyrus solution. In previous years it may have taken two months to write this application. We were able to design it quickly using Papyrus and we are very happy with our choice of solution," says Adrian Quinn, Senior Technical Analyst at Bank of Scotland.

Consequently, the Print Presentation team within Bank of Scotland conducted an investigation of document composition vendors to find a solution that could interpret the new data files and adequately convert them quickly into the application.

Decision Criteria for Papyrus

Papyrus was chosen as the document composition solution as it was able to fulfill the Bank's main criteria, which included, support for the Bank's new data files, speed of application development, one application with multiple printstreams, and ease of use. When you add the strength of the underpinning architecture - IBM's AFP, the complete "end to end" business document solution and the ISIS track record of continued innovative development, it was clear that choosing Papyrus was the correct decision in the short term and for the future.

The Solution

Bank of Scotland will, under the new system, produce all their bank statements, letters and certificates with Papyrus. Development for the project is currently performed in a PC environment using Papyrus Designer, then loaded onto the mainframe. With Papyrus, the source code remains the same on any platform, and therefore the WYSIWYG design developed using Papyrus Designer is exactly the same on MVS. Papyrus DocEXEC on MVS formats the documents, which are printed on IBM 3900 printers using Papyrus Host.

On average, 50,000 statements are printed per night. Over time, more banking product documentation will be produced using the Papyrus solution.

Capital Bank plc, who were previously Doc1 users, will migrate their existing solutions into Papyrus. They will produce the documentation relating to all new account applications with Papyrus.

The Benefits

With Papyrus, the document design and development was completed quickly and easily after a one week workshop delivered by ISIS. This saved Bank of Scotland a lot of time and resources, leading to cost savings.

Document Composition at Lloyds TSB Registrars

As part of the Lloyds TSB Group, Lloyds TSB Registrars provide share registration services to a number of leading limited companies in the UK. Based in Worthing, England, Lloyds TSB Registrars is the UK market leader in share registration in the UK, with approximately 59% of the FTSE 100 as clients.

The Customer

In managing share registers, the majority of the documents printed by Lloyds TSB Registrars are high security documents such as share certificates and dividend cheques. However in addition to this, Lloyds TSB Registrars also offer back end office management for Lloyds TSB Bank products.

The Requirements

With Lloyds TSB Registrars' implementation of the IBM InfoPrint platform in 1999, the next step was to implement a document composition solution. Some of the main requirements were:

- The ability to handle IBM 3211 line code emulation
- The ability to implement both overlay and template applications
- The ability to place text, graphics and images on a page
- The ability of the composition/formatting software to provide data feed for a file based mail room management option
- The ability to email/fax/bundle documents

Another main requirement was that Lloyds TSB Registrars did not want to have to go back to the host system to make changes. The new solution had to be able to handle the mix of print formats emerging from the host system.

Decision Criteria For Papyrus

The key reason Papyrus was chosen as the document composition solution, apart from the fact that it met all the stated requirements given by Lloyds TSB Registrars, was that it was extremely user friendly. Papyrus Designer offered a real time, true WYSIWYG approach to development, allowing the developer to see the changes as they were made. With Papyrus, Lloyds TSB Registrars were able to dynamically develop the documents that they were looking to produce, a crucial requirement for the new solution.

The Solution

Lloyds TSB Registrars worked with Lloyds TSB Bank regarding the ISA documentation, and were given detailed print layout and file specifications. From these discussions, they were able to determine what the final document layout should be and the conditional messages that must be applied. The documents are developed with Papyrus Designer, then formatted using Papyrus DocEXEC on AIX.

The documents are printed by the IBM InfoPrint platform or, in the case of the cut sheet ISA documentation, by a Xerox 4635 printer. Lloyds TSB Registrars developed the documents and completed the initial user acceptance testing in under 25 man days.

The Benefits

The Papyrus solution from ISIS has allowed Lloyds TSB Registrars to manage documents such as the ISA statements in-house. Without Papyrus the composition and printing of such documents may have been outsourced.

"We are very pleased with the Papyrus products we have implemented", says Kevin Bartlett, Project Development Manager at Lloyds TSB Registrars, *"The solution has delivered everything we expected it to with no major issues to report. We are now able to provide customers with enhanced professional and informative documents produced in-house"*.

Lloyds TSB Registrars are planning to start migrating their core business to Papyrus, for example the formatting and printing of share certificates and dividend warrants.

Lloyds TSB

Part of The Great Universal Stores P.L.C. (GUS), Experian has its UK headquarters in Nottingham, England. Experian is an information solutions company, helping organizations to use information to reach new customers and maximize the value from existing customers.

The Customer

Experian offers a wide variety of services, from database management, information services and decision-making systems, to handling the printing of transactional mail (for example bills and statements) on behalf of customers. The print and mailing department of Experian is responsible for the printing of credit card statements, telephone and utilities bills, together with all associated letters on behalf of their clients.

The Requirements

Experian started a project to implement a document composition solution that would allow it to produce all the documents with one product. Experian was looking for a solution within an AFP environment that allowed it quick and easy WYSIWYG development. One of the main problems with the old system was that raw AFP data would be entered, but the result could not be seen until the document was actually printed.

Decision Criteria For Papyrus

Experian chose Papyrus out of a shortlist of three vendors for a number of reasons:

- It offered a real time, WYSIWYG development environment
- It allowed extra functionality, such as embedding variable data within a fixed paragraph, and correct placement of signatures
- There was no pre-processing work needed

"The intuitive Papyrus Designer with its 100% WYSIWYG fidelity and cross referencing between editors makes it a very powerful and easy to use workstation," says Steve Hough, Business Services Manager at Experian.

The Solution

Experian receives a data file and details of the document layout and contents. Papyrus Designer is used to design the document, which is tested on screen using the WYSIWYG environment. The source code created on the workstation is then compiled on the mainframe. Papyrus DocEXEC for MVS formats the documents, which are printed by either IBM InfoPrint 4000, or Xerox IPS 180 printers. Experian prints in the region of 100 million pages with Papyrus per year.

The Future

Papyrus will continue to be Experian's core document composition solution. Over the next year, Experian will look to increase its number of Papyrus Designer licenses to keep up with the increased business it will handle on behalf of its clients, as all new contracts are being delivered with the Papyrus solution.

The Benefits

The speed of development with Papyrus and the ability to develop in a WYSIWYG environment is a major benefit for Experian. It is now able to quickly respond to customer requests and produce the required documents in a professional format and timely manner.

A Total Printing Solution at Experian

Steve Hough confirms that Experian is seeing many benefits from its Papyrus solution.

"The solution from ISIS is a definite improvement on our old system which could not deliver us the documents we required. With Papyrus, we can develop new business and provide a better service to our clients. We certainly have no regrets in implementing Papyrus."

Integrated Archiving and Internet Distribution

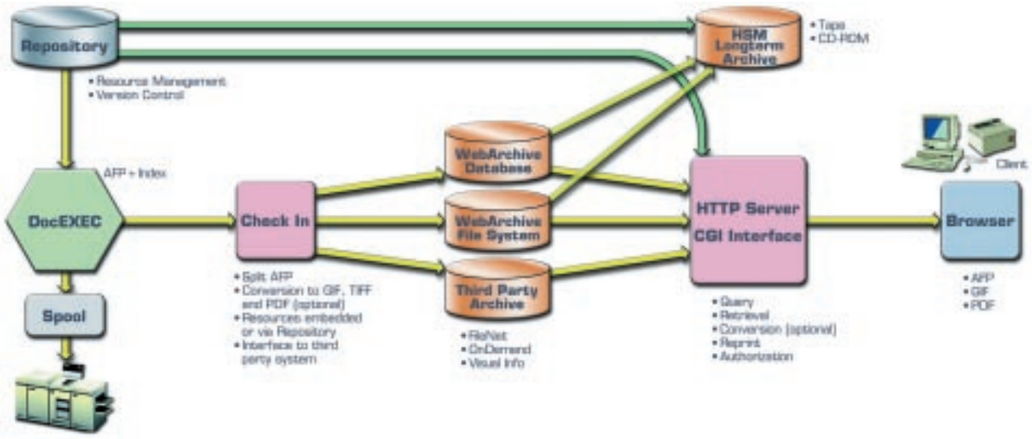
The business document is the main source of contact between customer and corporation, and as such is one of the most decisive factors in the customers impression of the corporation. Getting the document right secures customer satisfaction.

Of course, the customer will never see the applications or systems which back up their service. The only physical or electronic media they receive is the business document, the bill, the bank statement, the insurance contract etc... That is why Papyrus provides the exact same document as it was printed to the Internet.

Papyrus WebArchive offers a powerful integration and simplification in comparison to the common and limited EBPP products available today. Where these provide mostly hard coded data extraction and indexing, the Papyrus System provides these at time of document generation. Control fields, XML and the printable document are generated at the same time.

Highlights of the Papyrus Output Management Concept

- A completely integrated system for Archiving, Distribution, Printing and Internet presentation of business documents.
- Substantial cost and time savings due to ONE time development of the electronic document for printing, archiving and for internet delivery.
- No additional effort defining and extracting the index.
- Available for OS/390, HP/UX, DEC Alpha, AIX and SUN Solaris, WinNT.
- Native AFP viewing in the browser or conversion on the fly into PDF, GIF and TIFF.
- Integration with Imaging and Document Capture.



Customer Care

Clerks receive telephone inquiries and need to quickly call up copies of the customer's documents i.e. bills that were mailed out and view them while handling the inquiry. A copy of the document can be sent to the customer by using local or central printing, fax and e-mail.

Indexing

It is essential to index the documents in order to find them and retrieve them from the archive. The index is defined in the Papyrus Designer and generated during the Papyrus DocEXEC formatting run.

M&G takes full advantage of Web Technology by using the Papyrus WebArchive and Java Applet for AFP viewing.

A report by Mr. Martin Gunn, Project Manager of M&G, at the ISIS Roadshow in Henley-on-Thames, UK in June 2000.

M&G, a leading unit trust provider, is part of Prudential with several offices in the UK employing 1100 people. They produce approximately 12 million pages of customer output per year. Their aim was to establish a single, standard interface for producing all computer generated customer documentation.

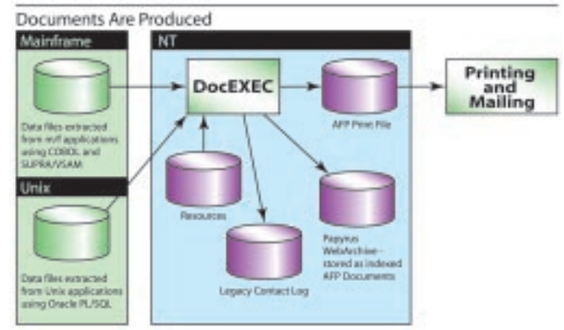
With the old system they faced poor consistency across system output, low quality documents (240 dpi, black and white only), inflexibility and high cost of supporting multiple systems.

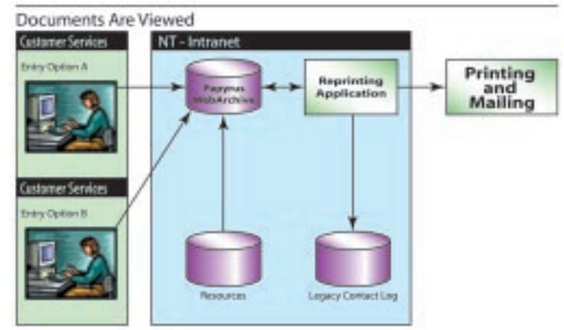
The Way Forward

- Provide consistency across and within products and systems
- Raise the quality of business documents by using color, charts and high resolutions
- Implement standards
- Provide output electronically
- Provide tailored 'one to one' documents.

The Solution

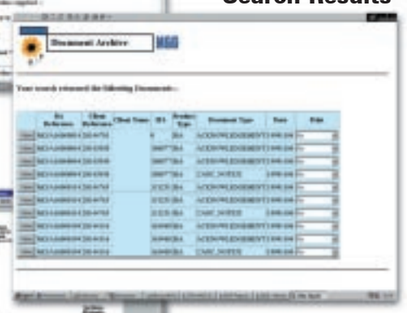
The Papyrus Designer Package was chosen to develop the document applications and its resources such as fonts, forms, logos. Papyrus DocEXEC Formatter is used on NT. Printing is done using a highlight color duplex cutsheet IPDS printer from OCE. For storage and retrieval the Papyrus WebArchive solution was chosen. This includes the viewing of the documents using the Papyrus Java AFP Viewer Applet with the Microsoft Internet Explorer.



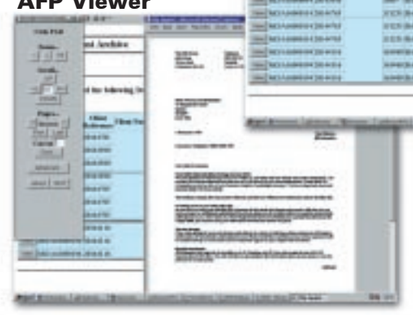


Search Window

Search Results



Papyrus JAVA AFP Viewer



M&G

GPU Energy
Utility Bill Processing

Company Info

GPU Inc., is an international provider of energy-related infrastructure and services. Domestically, its three electric utility subsidiaries - doing business as GPU Energy - annually provide approximately 44 billion kilowatt-hours of electricity serving two million customers in Pennsylvania and New Jersey. GPU Advanced Resources, Inc. sells competitive retail energy and services in the Mid-Atlantic region. Altogether, GPU serves more than 4.3 million customers around the world.

The Requirements

In conjunction with Y2K preparations, GPU Energy started a project to migrate business applications from mainframe processing to SAP R3 on the HP-UX operating system platform. Packaged SAP reports did not provide the flexibility, quality and print processing required for GPU to conduct business. Print software requirements included:

- Flexible print formatting including IPDS and PCL
- Dynamic Formatting including multiple languages and charts (pie, bar)
- Handling of SAP RDI (raw data interface)
- Integration with postal software processing and barcode support
- WYSIWYG design of applications including spell check
- AFP resource compatibility
- Highlight Color and Full Color support

Decision Criteria for Papyrus

GPU selected Papyrus Document Solution based on ISIS' response to the requirements and rapid development capabilities. In a very short time, ISIS was able to quickly produce a sample Papyrus billing application using the sample SAP data and layout that GPU provided.

The Solution

GPU's Bill Print solution uses Papyrus Designer and Papyrus DocEXEC. With Papyrus, GPU nightly processes regular bills for its three subsidiaries with volumes of 50,000 to 200,000 accounts and collective/master/voucher processing of 10 to 100 bills, varying from 5 to 200 pages. Additional applications include letters with volumes of 100 to 30,000 per cycle and check generation with volumes of 25,000 monthly.

Papyrus Designer's WYSIWYG design capabilities enables rapid development and updating of new or changed bill formats. Features used include conditional processing to produce consolidated billing for multiple services and for the different subsidiaries, data-driven power usage comparison charts, and conditional notices and marketing messages.

To start batch processing, SAP application servers generate RDI or plain text and print the data to remote queues. Each data type is printed to a unique queue. Then a series of UNIX scripts automate formatting and printing.

- The first script, checks for the number of concurrent spool runs and launches the formatting procedure.
- The second script invokes Papyrus DocEXEC formatting for each spool request, creating an index file and log file that is passed to postal processing which adds the carrier route information.
- The third script checks that all post-processing is completed, merges the updated log information and runs the postal optimization to generate the final print order for maximum postal discounts. Then this print order is input to the Papyrus DocEXEC post-processing application which imports the earlier pre-composed, indexed AFPDS documents in the correct order, adds the additional document information including carrier routing and barcodes, and produces the final AFPDS. This final AFPDS is then processed by the OCE print server and printed on the Pagestream 1000.

Benefits

- How quickly GPU staff learned to use Papyrus Designer to develop applications
- How Papyrus handles the SAP RDI data file
- How easily and quickly GPU developers can make changes to applications
- Ease of integration with postal processing and archive software

COMPLEMENTARY SOFTWARE
SAP
BAPI CERTIFIED

Clarica, one of the leading insurance companies in Canada, has successfully implemented a personalized Marketing Campaign Solution for their worldwide agents. They are using the Papyrus Document System to generate and automate full color marketing brochures in 5 categories and 5 languages:

- Financial security
- Business
- Estate preservation
- Family farm/business transference
- Charitable Contributions
- Languages: English, French, Chinese, Korean and Vietnamese.

Marketing Campaign Materials

The Agents Order Process

The agent can request any number of customized copies of the brochures for the different insurance products via Web notification and order processing. For example: 50 copies of English estate planning, 25 copies of Charitable contributions. They can have their photograph and address included in every brochure.

How It Was Implemented

① Artwork was done using Quark Xpress and Photoshop to produce 600 dpi full color TIFF CMYK images.
② Papyrus Document Application reads batched 'Order Request' data records. Agent picture and address is read from a mainframe database to generate composed document copies customized with Agent information (picture and address on back of brochure).
③ Additionally Papyrus generates slip sheet for shipping the brochures to the agent who ordered them.

The Results

Over a 6 weeks period, 450 orders were received. This is contrasted with the usual volume of about 23 orders for preprinted brochures that were not customized. Agents where willing to absorb the 3 times higher cost per copy for the customized brochures.

The Value

Agents wanted them because

- ✓ they could personalize
- ✓ continue to strengthen their relationship
- ✓ they could target specific markets
- ✓ they can address specific client needs
- ✓ clients are more open to consider marketing material that speaks to them on a subject that concerns them
- ✓ agents can now sell their business according to their particular game plan (ie. farm/business transference may be a key part of their business)

Initial concerns where solved successfully by printing to IPDS Full Color:
The first week's run generated 25,000 brochure copies. Printing operations personnel were initially concerned with the volume because they were more used to Postscript ripping versus AFP Full Color printing. Using Papyrus in conjunction with the IBM Infoprint 100 made this Print On Demand application very scalable.

The Statistics

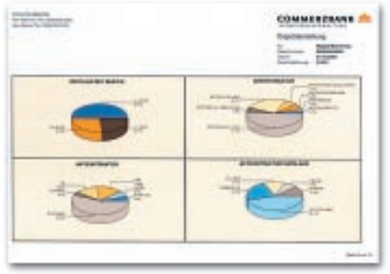
"In 6 weeks, we printed 80% of the total yearly orders (1998) for the generic brochure", says Don Maxwell from Clarica. *"Nearly 16% of the sales force ordered the new brochure versus nearly 4% of the generic in 1998. As far as the effectiveness of targeting market segments versus the shotgun approach, there are a lot of case studies to support this."*

ONE Document Solution Does It All! Print On Demand Marketing Campaign Brochures and One to One Business Documents

One to One Business Documents

Commerzbank has been an ISIS customer since 1992. The OverView AFP Designer Products have been successfully used for many forms/data applications. Late last year Commerzbank decided to upgrade to the Papyrus Document System to fulfill the new needs for business documents within the corporation. Dynamic formatted consolidated Fund Statements using Full Color for charts and graphics were requested by the user department.

14 different account types are merged dynamically into one statement. A table of contents provides an excellent overview of the document content.



Document Application Details

- ✓ Outline Fonts in 600 dpi
- ✓ Dynamic Charts generated from business data in full color (GOCA)
- ✓ Company Logos in color (IOCA)
- ✓ Signatures in color
- ✓ Color Table headings
- ✓ Different color shadings for each account type
- ✓ Printing on IPDS using IBM Info 100 Color printer.

Document development is done on WinNT using the Papyrus Designer Suite. Batch formatting on OS/390 using Papyrus DocEXEC.

Commerzbank

As a universal bank, Commerzbank covers retail banking, wholesale banking and investment banking. It also offers specialized services via a number of subsidiaries, such as leasing, fund management, real-estate and equity investment. Among its leading subsidiaries are RHEINHYP Rheinische Hypothekenbank and the Hypothekenbank in Essen. comdirect is one of Europe's leading direct brokers and a major stepping stone to becoming a prominent Internet bank. Commerzbank's main areas of activity are Germany and the rest of Europe, North and South America and Asia. Since the rapprochement with the former Eastern bloc, Commerzbank has extended its presence in Central and Eastern Europe.

Foto Lufthansa

Lufthansa AirPlus - Business Travel Management with Papyrus Capture

The number of card holders increased by 27% in 1998. To accommodate this strong growth trend Lufthansa AirPlus had to speed up the processing of card applications and other customer documents.

Lufthansa AirPlus was already using Papyrus Software since 1997 for an enveloping system for credit cards, developed by ISIS with Papyrus Server and Xerox printers. After thoroughly investigating the market for document capture systems the decision for BlueWings Capture from Improx (now renamed to Papyrus Capture) was made even before ISIS and Improx announced their business relationship.

ISIS Holding AG acquired a substantial share holding in Improx AG in December 1998 and took over the share majority by the end of 1999. The goal of the integration of Improx into ISIS was to provide yet another step to a complete business document solution for large corporations. The software products of both companies are being integrated and sales and marketing worldwide is now handled by ISIS.

The quality of the data from the recognition of hand writing is greatly improved by a probability logic for address corrections when characters cannot be recognized.

The Company

The Lufthansa AirPlus Mastercard or VISA corporate credit card provides complete travel management with a comprehensive monthly report. This considerably reduces a company's administration effort for travelling employees. Lufthansa AirPlus has issued more than 380,000 cards already with a turnover of 8.5 billion Deutsch Marks annually.

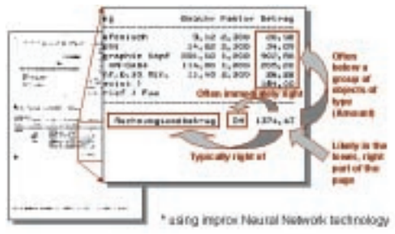
The AirPlus Solution

Papyrus Capture meets all the requirements for flexible design of the forms to be captured, exceptional recognition of hand writing, and simple system expansion when required. The system, installed early in 1999, already processes several thousand forms daily. The number of different forms as well as the volume increase constantly.

The system is integrated into the AirPlus network running on NT servers. Scanning is done with two Bell&Howell 5000 scanners, each with a capacity of 1000 forms per hour. Most of the processed forms are filled out by hand and include customer and address data.

Improx's ICR solution is optimized for recognition of hand writing which enables a highly automated data input. The system provides additional integrated address correction with probability rating to recognize city and street names as well as zip codes regardless of missing characters. The documents are still screened by hand but processing times per document are considerably reduced by the automated recognition.

Papyrus Capture is completely object oriented. This allows the re-use of form and field classes in different applications and simplifies the integration with the Papyrus repository component. ISIS will make the system available for different operating systems in the future.

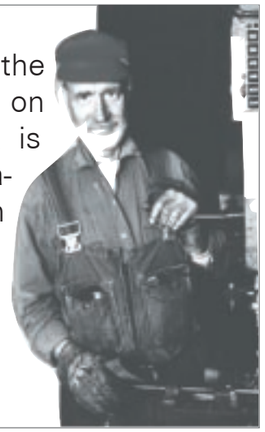


Benefits

Like other Papyrus Capture users, Lufthansa AirPlus gains the following benefits:

- Expedited data input
- Reduced cost for data input
- Improved results by probability check
- Direct triggering of follow-on process steps (workflow)
- Direct data input into databases
- Quick introduction of new forms and/or data fields
- Substantial scalability to more than 500,000 documents a day
- Support of standard interfaces

FORA offers insurance services for the parties in the labor market based on collective wage agreements. Fora is the mediative link between companies and the employees. Based on the salary information they get from the companies, premiums for the employees are calculated.



The Customer:

FORA Försäkringscentral is an insurance service company with 120 employees owned by SAF (The Swedish Employer's Confederation) and LO. SAF consists of 45,000 large and small companies, organized in 39 employer associations. FORA provides 200,000 employers and their 3 millions insured employees with their services which include 275,000 phone calls, one million invoices and one million pension statements per year. The output of these services is about six million pages per year.

FORA Försäkringscentral

IPDT Migration to a Modern Letter System

The Requirements:

- All data should be automatically read from a DB2 database
- Dynamic selection of text elements
- Amend selected data sets with pre-defined or manually entered data
- Job statistics for optimum performance
- Printer independent document generation and print to a freely defined printer (local or network)
- Electronic signatures
- Access to a certain letter simultaneously for different users
- Conversion of pre-defined IPDT letters, text blocks and variables

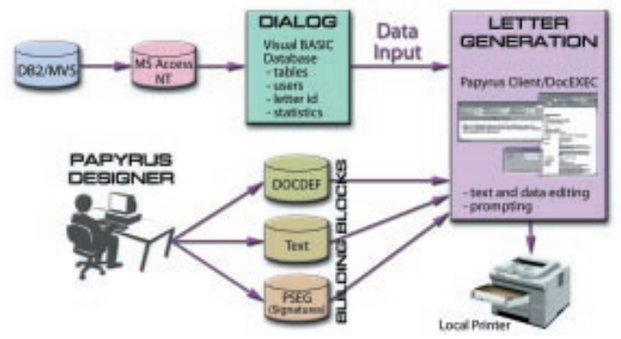
The Concept:

A library contains all letter elements like Pagesegments (signatures), text elements (IMPLIB) and document files. The VBA Dialog with link to DB2 sets the preconditions based on the user's selections. All necessary letter elements are then sent to Papyrus to create the requested letter and transfer it to the specified printer.

FORA FÖRSÄKRINGSCENTRAL

The Solution:

FORA started to use OverView AFP Designer to create volume documents for batch processing in 1997. In 1999 FORA chose Papyrus Designer and Papyrus Client with DocEXEC integration to migrate from an IPDT legacy text system to a modern graphical letter system. The total migration was done between October 1999 and



January 2000. All documents are developed using Papyrus Designer as a framework with internal and external objects (external dfa- and text- files) and "prompting" requests for text and data entry by the user.

The Future:

The future plan is to implement Papyrus Web solutions for a total integrated document workflow with document distribution via Intra- and Internet.

ISIS Locations

International Headquarters
Austria
ISIS Information Systems GmbH
ISIS Marketing Service GmbH
Alter Wienerweg 12
A-2344 Maria Enzersdorf

T: +43-2236-27551-0
F: +43-2236-21081
eMail: info@isis-papyrus.com

US Headquarters
ISIS Papyrus America, Inc.
5505 Normandy Dr.
Colleyville, TX 76034

T: 817-416-2345
F: 817-416-1223

Asia-Pacific Headquarters
ISIS Papyrus Asia Pacific Ltd
9 Temasek Blvd.
#15-03 Suntec City Tower 2
Singapore 038989

T: 0065-336-6988
F: 0065-336-6933

England
ISIS Papyrus UK Ltd
The Atrium Court
Apex Plaza
Reading RG1 1AX

T: 0044-1189-254227
F: 0044-1189-560380

Benelux
ISIS Papyrus Benelux
Waterloo Office Park
Dreve Richelle 161
B-1410 Waterloo

T: 0032-02-352-8720
F: 0032-02-352-8802

Italy
ISIS Papyrus Italy Srl
via Jervis 11/v004
10015 Ivrea (TO)

T: 0039-0125-521-535
F: 0039-0125-521-533

Spain
ISIS Toth SL.
c. Azabache 17
28224 Madrid

T: 0034-91-351-1686
F: 0034-91-351-4432

Since 1988 ISIS has built a reputation for customer orientation and quality which is recognized worldwide. With our impressive and continued growth of more than 30% per year in Europe and Asia, we have become the de facto leader and standard for corporate document solutions on these continents.

ISIS. More than a Company.

1800 corporate customers
ISIS subsidiaries in 12 countries
Representatives in 42 countries
More than 200 employees
US$ 60 million revenue in 2000

Our three support centers in Vienna, Singapore and Dallas provide together 24 hours customer support coverage for 7 days a week.