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Your business documents are your primary points of contact with your customers. They are critical to effective customer communication and must be generated in a variety of formats.

A powerful design toolkit and formatting engine like Papyrus can create business documents customized down to the last sentence for each individual recipient of print and electronic delivery. The following document application requirements have to be met by the document system to support the complete document lifecycle, to ensure upward compatibility, platform and output channel independence.

The Power of **Personalization**

### 1. Architecture

An open architected concept based on a documented architecture is a key to multi channel output delivery. Sharing the same document resources and templates, across batch and ad hoc business document applications, platforms and different output channels, reduces development time and cost and ensures corporate identity.

Papyrus uses internally the fully published IBM AFP architecture and can output seamlessly and transparently all document types to any laser printer, archive, Web, Fax and email.

### 2. Data format support and interfaces

Any type of business data format must be supported in a modern document formatter today.

**PLEASE NOTE!**

Limited tools on the market require data manipulation or data tagging.

Papyrus supports any flat data file from any business system directly:
- Fixed length, delimited, channel controls,
- Xerox DJDE controls, DCF, XML, HTML, SGML,
- ASCII, EBCDIC, SAP, Peoplesoft and more.

Papyrus data interfaces include flat files, data arrays, SQL queries and typemangers for DB/2, Oracle, SQL Server on different platforms. Adapters are available for MQ Series, CICS, IMS, JES, SOAP, HTTPS.

### 3. Logic

Even complex logic is easily defined using drag and drop functionality on a graphical user interface.

A script language is executed and allows any logic definition on the screen without complex coding.
### Layout

A page is NOT a page but a dynamic formatted document with relative positions and dynamic page breaks. The formatting engine knows the size of each object on the page and performs an automatic page break executing before break and after break conditions.

You can apply any graphical design and layout for your business documents to reinforce your brand and corporate identity.

**Limited tools on the market are page oriented and are not event and data driven at time of page break.**

### Resource management

What you see on the screen is pel accurately printed on a laser printer, viewed from an archive or Web browser in PDF or TIFF. This is only manageable and possible if the software does it for you. Papyrus manages all resources from development to the archive internally and guarantees that one dot on the screen is one toner dot on your paper.

### Output management

Document index generation is a one step process. All required indices are selected at time of document development from the business data. The index information file is automatically generated by the formatter. Such indices are needed for later output management, bundling, reprinting of pages and documents, archiving and viewing.

**Limited tools on the market require you to format twice for index generation or even worse generate those indexes by heavy programming from the compiled document.**

Only if all mentioned steps are integrated into one process can you generate world class business documents in record time. Papyrus offers you such integration at time of development and for the complete document life-cycle which is unmatched in the industry.

### Papyrus Development Framework for batch, ad-hoc and online business documents

The **Papyrus Repository** stores documents and resources with versions and validation. This ensures that all content and letters are the most current and approved versions. Other features are the user role management, print job management and automatic software and resource distribution.

The **developer**, an IT professional, defines the data interface, logic, classes, versions and variants.

The **administrator** or **business professional** works with predefined templates, generates text elements and authorizes users.

The **user** selects a letter from his library and is prompted to edit text and data.

**User Roles and Privileges**

An integrated authorization system ensures that no user or program can access the system without the proper authorization. Authorized users have full management control of all phases from document assembly to content approval.

**Papyrus Framework Organization provides control for the development, test, sign off and production environment.**
For many banks and brokerage firms the monthly statement is the only point of communication with its customers. Statements too often look like balance sheets and it is difficult to understand the way information is presented.

**Statements and Reports**

**Banking**

**Mutual Funds**

**Credit Card**

**Finance**

Improve customer satisfaction and communication through improved statement design. Make information quickly accessible and eliminate customer inquiries due to questions about the statement.

**Consolidated account statements**

For customers who have several types of accounts, and possibly a checking account and credit card.

Papyrus lets you provide a summary page with charts to clearly illustrate how the overall portfolio is performing. On subsequent pages all account types of one customer are combined into one statement including ATM withdrawals and check images.

**Charts**

Use color charts to simplify the document and increase awareness. Customers are attracted to charts for a visual representation. Papyrus supports a large variety of different chart types. Each chart is dynamically generated from the business data and looks different for each account type.

**Color**

Use color for logos and variable information!

Papyrus supports spot color and full color for all document resources such as text and variable data, charts, logos, forms, shadings and images for printing and presentation. For example, priority customers receive their statement in full color, standard statements have no color.

Highly personalized 1:1 business communication strengthens customer relationships.
Marketing Messages
Use customer data to create targeted customized marketing messages, offers and information. Papyrus can directly draw customer data from an existing database and conditionally include marketing messages. Costs associated with pre-printed inserts are eliminated.

Subtotals
Before a page break, a subtotal can be automatically generated and reprinted on the next page after the table header.

Before break/after break event: In the document design the developer can define what shall happen in case of a page break event. The Papyrus formatter knows the size of every object on the page and generates automatically a page break executing logic definitions made in the graphical Papyrus Designer.

Typical examples:
- print subtotal before page break and reprint header after page break.
- print marketing message only if there is enough space on page. Additional page for the marketing message is to be eliminated.
- widow and orphan control

Other features:
- personalized marketing message at an angle
- uppercase/lowercase conversion
- page numbering 1 of n
- dynamic logos, icons, images and data driven signatures simplify account statements and maintain brand identity.

Languages
You can use single or multiple languages in one statement, or produce each statement in a different language. Depending on the customer data information Papyrus can dynamically combine languages i.e. English and Spanish or English and Chinese in one statement for text and data.

Codepage Support
The Papyrus System offers integrated support for all language codepages, data codepages and platform codepages. No manual codepage setup is required.

Fonts
Any font type is supported. Adobe, Truetype, AFP raster and outline in 240, 300, 600 dpi.

Check Images
are dynamically imbedded into the statement using the integrated image support of Papyrus DocEXEC. TIFF images are converted on the fly to IOCA compressed images and resized to the space available in the statement.

Dynamic Boxes
are a standard feature of the formatter. Depending on the number of data records, boxes grow or become smaller.

Dynamic Shadings
Depending on the size of the table, shadings grow or become smaller.

Online Viewing/Customer Care
The Call Center can view and review the actual statement stored in the Papyrus WebArchive, immediately and accurately answer customer questions, and if required process a duplicate order of the product or service the customer is viewing on their statement. Additional services can also be offered such as Fax on Demand or e-mail if the customer needs a duplicate copy of their original statement or reprints of past statements. Such reprints are automatically marked with COPY.
Regardless of the type of documents you are creating - policies - contracts - correspondence - benefit booklets Papyrus lets you automate the highly complex documents that characterize your industry.

**INSURANCE**

Papyrus lets you manage large bodies of text, apply complex assembly rules and logic and merge any information such as data text, forms, graphics into the fully composed page or document.

Use carefully worded, strategically placed messages.

You can work with your data, create a layout, define the logic and decision rules for document assembly which can be easily modified as your needs change. We provide consulting services and training and leave you with the installed tools and the knowledge to manage the system yourself.

Whether you output digital documents for web viewing, or printed documents, or a combination of the two, we can provide you with your total solution.

“Application delivery time has been cut to 1/5th to 1/10th of the time that it took using DCF. This is due to a much simpler data file, accurate GUI, and rich functionality of the product.” Don Maxwell, Sun Life Assurance Company
1 **Table of Contents**

can be produced in one formatting step. All pages for one document are held in a page buffer. The table of contents is generated as the last page and resorted automatically to become the first page or a subsequent page.

### White space removal - text formatting

2 **Widow and Orphan control**

is available to make sure that several lines of text are always placed on the next page and the greeting is not left alone on a new page when a page break occurs.

3 **Include Documents from PC Text Systems**

Terms and Conditions or marketing messages can be written in Word and be included into the formatted document using Word Macro functionality. Alternatively the Papyrus PrinterDriver can be used to combine PC documents with business output from a business application.

4 **Barcode and OMR Code**

Papyrus offers a barcode DLL that combines all common barcodes including the 2 D Datamatrix barcodes.

5 **Booklet Mode**

Papyrus lets you place any number of logical pages on a physical page in any rotation and size. Page numbering one of n is done by the Papyrus DocEXEC formatter automatically.

6 **Correspondence/Letters**

Dynamic document assembly executes the correct text elements, graphics and other document resources defined and fills the letter with the variable customer information. The user can be prompted to customize authorized text and data fields. He has access to a simple text editor that offers typing text freely, using a spell checking utility, underline, cut, copy and paste, select a certain font, etc. Depending on their authorization and on the definition of the letter application, only some parts or all of the letter can be edited. The letter can be previewed, signed off and sent to the central PrintPool and archive for further output management.
Good bills have information that is presented logically, complete and easy to read. They also contain usage histories for the account - which are valuable. Prevent bill layouts that are so busy looking that you don’t know what you’re actually looking at until you study it.

Consolidated Energy Bill

- Contact information is clearly highlighted to promote a 1:1 relationship
- Logos are dynamically imported as variable information and printed in digital spot color
- Targeted individual marketing messages
- Data driven charts show usage history
- Consolidated bills are attractive, easy to follow and cost effective
- Dynamic tables show payments due
- For new customers no usage history applies. Instead there is a welcome letter printed. Carefully worded, strategically placed messages are used as part of a communication strategy that has effective, immediate impact on customer behavior.

The result is a document solution as individual as your business.

Billing

Orange was launched in April 1994, the fourth mobile telephone network operator to enter the UK market. Orange has operating interests in 20 countries worldwide and a brand presence in a further three countries. At the end of 2000, Orange was the third largest UK mobile operator.

Giving a New Look to the Old Bill

With the implementation of the Papyrus system, Orange took the opportunity to redesign their bill to include features that were not possible with their old system.

A major factor in providing outstanding customer service is the customer bill. “We are focused on simplicity and clarity, and these will remain central features of the Orange bill as produced with Papyrus”, says James Hodgson, Airtime Billing Systems Manager at Orange PCS Ltd (UK). “Our Customer Relations Management are very interested in customising the bill and any marketing messages that appear on it depending on, say, a customer’s address, patterns of usage, or other lifestyle details. With Papyrus we can customise our bills like this very quickly and easily”, he adds.
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
An award winning full color application

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
- Artwork was done using Quark Xpress and Photoshop to produce 600 dpi full color TIFF CMYK images.
- 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).
- Additionally Papyrus generates slips 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 pre-printed 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)

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Initial concerns were 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.”
Papyrus Postprocessing and PrintPool

The Papyrus PrintPool can be installed on a Windows or UNIX server and on the mainframe. Databases used are Papyrus WebRepository Depot or standard databases such as DB/2, Oracle and MS SQL Server. For simple bundling requirements it is also possible to store the documents in a file based system. Papyrus automatically generates a document index file at time of document formatting. With the Papyrus Designer the index fields are defined using the data file on a graphical user interface. No manual coding is required. Any number of index fields i.e. customer number invoice number, page number..., can be selected for later bundling, assembling, routing and sorting of documents.

- **The bundling process:**
  Panels are provided to manage the extraction of pages in any user defined manner. The bundling logic is completely flexible and extendible using customizable algorithms. Start the bundling process timed, triggered or by the user. The documents can be grouped into one envelope per addressee or for a certain user or user department. The group sequence can be prioritized based on total group page numbers, users, documents and combinations thereof.

- **At this time additional information is added to the electronic document:**
  Barcode, OMR code, page numbering 1 of N, banner pages are generated, ‘COPY’ is printed across the page in case of a reprint.

- **The electronic documents are now ready for several different output destinations:**
  - print and archive
  - fax and e-mail
  - deliver to the Web/Mobile

All output channels are addressed by Papyrus seamlessly and transparently without additional coding. The index file can already contain a fax number or an e-mail address.

Managing front end documents and central batch production in a common PrintPool for optimized mailings and electronic delivery results in tremendous cost savings for the corporation.
Even printer limitations such as resolution, front/back paper control or cut sheet fanfold/roll printing can be controlled independently from the layout. Viewing of the document in the Web can include the preprinted form in color while the printing is only in grayscale due to possible hardware limitations.

**Papyrus uses an open architected concept:**
Development of document resources and production formatting is only required one single time for seamless printing and electronic delivery. The Web is just another output channel!

**Freedom of platform and output channel choice:**
All Papyrus generated document resources are binary compatible between the different platforms, the library is simply copied to a new platform.

**Centralized supervision and administration:**
*Papyrus WebControl* for output process management, tracking and monitoring allows authorized users to have centralized supervision and administration for their printing by monitoring all the print processes running on a wide range of printers. This is an easy to operate solution which fits neatly into every existing environment.
We help you to design smarter business documents and support you to implement them.

Professional Services

Our professional services program consists of following areas:
- Consulting
- Software installation
- Workshops on-site
- Training classes
- Document development services

We offer a scalable service with maximum flexibility, tailored for your individual situation having in mind that skill sets and time dependencies vary in each company.