

TECHNOLOGY INNOVATION <eCOMMUNICATION>

Turning Green into Gold

NO

**No more paper invoices,
contracts, terms &
conditions, statements
and letters**

YES
Choose Electronic!

PAPYRUS APPLICATION REPORTS:

Digital Insurance Documents, Internet Banking, Electronic Bill Presentment

KEY PLATFORM BENEFITS

- ▶ **Significant potential savings** in printing, equipment and postage
- ▶ **Shorter development-cycles:** integration out-of-the-box, WYSIWYG and content management
- ▶ **Reduced time-to-market:** business and marketing control their processes, content and templates
- ▶ **Simplify achieving compliance:** regulation and audit control is embedded in the process itself
- ▶ **Increased customer retention:** a unified customer view for inbound and outbound communication

Turning **Green** into *Gold*

Gearing up for Electronic Business Communications

■ Challenges

Being able to deliver and store records and documents in electronic form is considerably more environmentally friendly compared to paper. Organizations are realizing that process improvements and the move away from paper to electronic processes results in green benefits, such as energy savings from paper production, distribution, usage and disposition, and transit through the postal system.

Consider a financial institution, insurer, telco, government or any other institution generating vast amounts of business communication for its customer base. Disseminating the most up-to-date information quickly and accurately to end users is critical. However, if a law is changed or the terms/conditions are revised, and the material reflecting these changes is either inaccurate or not distributed in a timely manner, an institution leaves itself vulnerable to potentially massive fines for non-compliance – perhaps even litigation.

One of the most pressing problems is that by continually creating corporate documents from scratch, companies run the risk of producing external and internal communications that are inconsistent in style, appearance, and - even worse - message. The need for variants for gender, languages, brand, branches or for new channels such as e-mail, web-page, blogs or rss-feeds causes exponentially growing problems.

The implications of these shortcomings can be disastrous with respect to industry specific compliance issues and could lead to corporate embarrassment.

Another big issue business and marketing face is a continuing dependency on IT. Simple changes in text or layout for example marketing messages, legal disclaimers, logos or even a new contract template can end up taking months and potentially cost more than the business value.

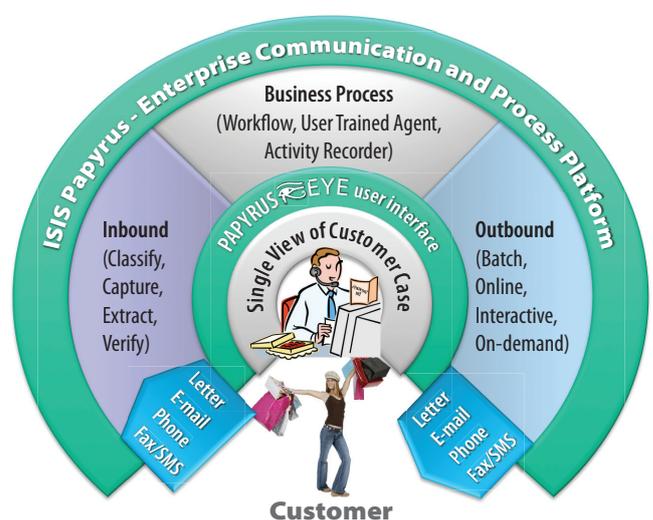
Decentralization of document composition using standard office tools or island solutions creates compliance and corporate identity issues that increase costs and time-to-market.

■ Objectives

To unleash the power of multi-channel communications, to decrease time-to-market, and to enable re-use and enforce compliance, business and marketing users have to regain control and reduce their dependency on IT.

The ability to automatically close the communications loop while constantly monitoring and evaluating the inbound process utilizes Straight Through Processing (STP) to its full potential. Why? Conversations initiated over one channel, for example a webform being submitted results in an electronic policy being e-mailed, triggering a response on the same or possibly a different more appropriate channel. A response to the received e-mail by the customer will be generated using the Papyrus reply function. Capturing all channels by automatically linking incoming and outgoing communications for storage in a case file ensures customer satisfaction and adds efficiency to the daily operation.

Giving the customer facing staff the complete picture covering customer records for any outgoing or incoming communication and processing steps.



Opening up electronic channels

Leading insurance companies have successfully implemented the Papyrus platform to leverage electronic communication with customers, partners and within their organization. Using Papyrus the entire process for underwriting and claims processing is conducted electronically without the need for re-keying

or manual intervention, utilizing Straight Through Processing (STP) to its full potential. Besides the electronic delivery and archiving there is also the need for printing in high quality and high volume. Papyrus top rated Automated Document Factory covers the complete output management process.

step 1 Request

Customer requests insurance contract and completes an intelligent web-form in Papyrus EYE with their personal information.

step 2 Capture

Details of customer request is captured, digitally signed for compliancy purposes and archived in Papyrus WebArchive for future use.

step 3 Extract

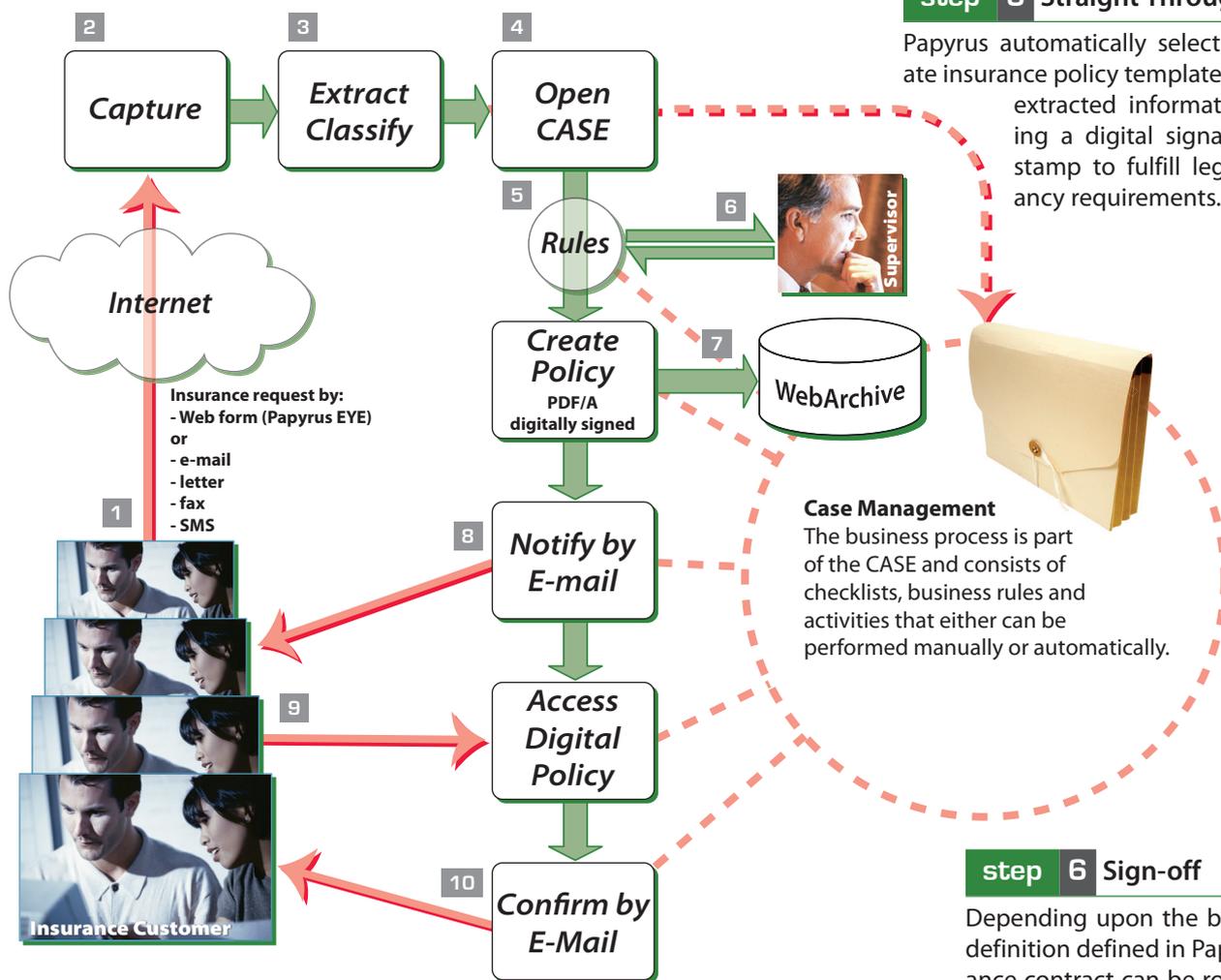
Papyrus intelligent classification, data extraction and verification prevents re-entering of data, avoiding errors.

step 4 Open CASE

A new CASE is added to the CRM system containing a reference to the original insurance request.

step 5 Straight Through Processing

Papyrus automatically selects the appropriate insurance policy template, formatting the extracted information and applying a digital signature and time-stamp to fulfill legal and compliancy requirements.



step 7 Archiving

All insurance documents belonging to the CASE are archived in the Papyrus WebArchive with index and classification attributes complying with the corporate retention policy.

step 8 Notification

Papyrus SMTP server generates an e-mail containing a personalized URL to download the contract. A reminder e-mail or SMS can be sent automatically. Should the customers not respond, a task for the call center can be generated.

step 9 Retrieval

Customer can retrieve the insurance contract after authentication through the personalized URL. Papyrus monitors and keeps track of customer activity, marking insurance documents as having been accessed.

step 10 Close CASE

Customer acknowledges receiving the contract by returning a signed document containing a barcode, a checkbox on the website or a reply e-mail. CASE will be closed and archived.

step 6 Sign-off

Depending upon the business process definition defined in Papyrus, the insurance contract can be routed through a sign-off process by the supervisor.

The Key is Integration

Implementing a multi channel, One-to-One business document solution for Web delivery and optional automated print.

■ Case Study

The bank implemented a banking portal as a virtual customer service branch office. Outstanding customer service by providing 24/7 access for personalized statements and reports were set as requirements. Depending on the client profile, the same document must also be printable in high quality, automatically be enveloped and mailed. Leveraging existing business data directly from the business application on the mainframe for electronic document presentment and optional printing was a prerequisite.

The Web creates new challenges.

■ The Requirements:

- Internet Banking document service based on existing z/OS mainframe application programs delivering the business data for the statements and reports.
- Viewing of the statements and reports in the browser in PDF format
- Optional printing of same documents on different printers
- E-mail notification with hyperlink in documents on new available statements in the e-Postbox
- Around the clock access: 24 hours, 7 days

■ Freedom of Platform Choice with Papyrus

- Legacy business data is fully supported
- Single time document design and formatting for 100% identical results on Web and paper
- Fast document development using 100% WYSIWYG Papyrus Designer
- Users in the business departments are empowered to edit text and marketing messages using the Papyrus EYE user friendly Flash GUI.
- DocEXEC high speed batch and ad hoc formatting on 11 platforms
- Repository for central management and administration of all document resources, building blocks, user authorization and document processes.
- WebArchive – AFP to PDF generation on the fly
- PrintPool for central output management adding OMR and Barcodes
- Use low cost central print and mail facilities for statements not viewed in the Web.
- E-mail Server for e-mail notification and URL

Quick Facts

The portrayed Bank, is one of the biggest banks with branch offices in Germany, employing more than 4,000 people. The main business focus is investment and Internet banking. Its activities also include property financing and services for institutions and companies as well as securities trading.



By the way...

Despite the rather complex application less than 6 weeks of total on-site support were needed from ISIS Papyrus. This included the document development effort and the setup of the central Repository and Archive.

The total project phase was five months.

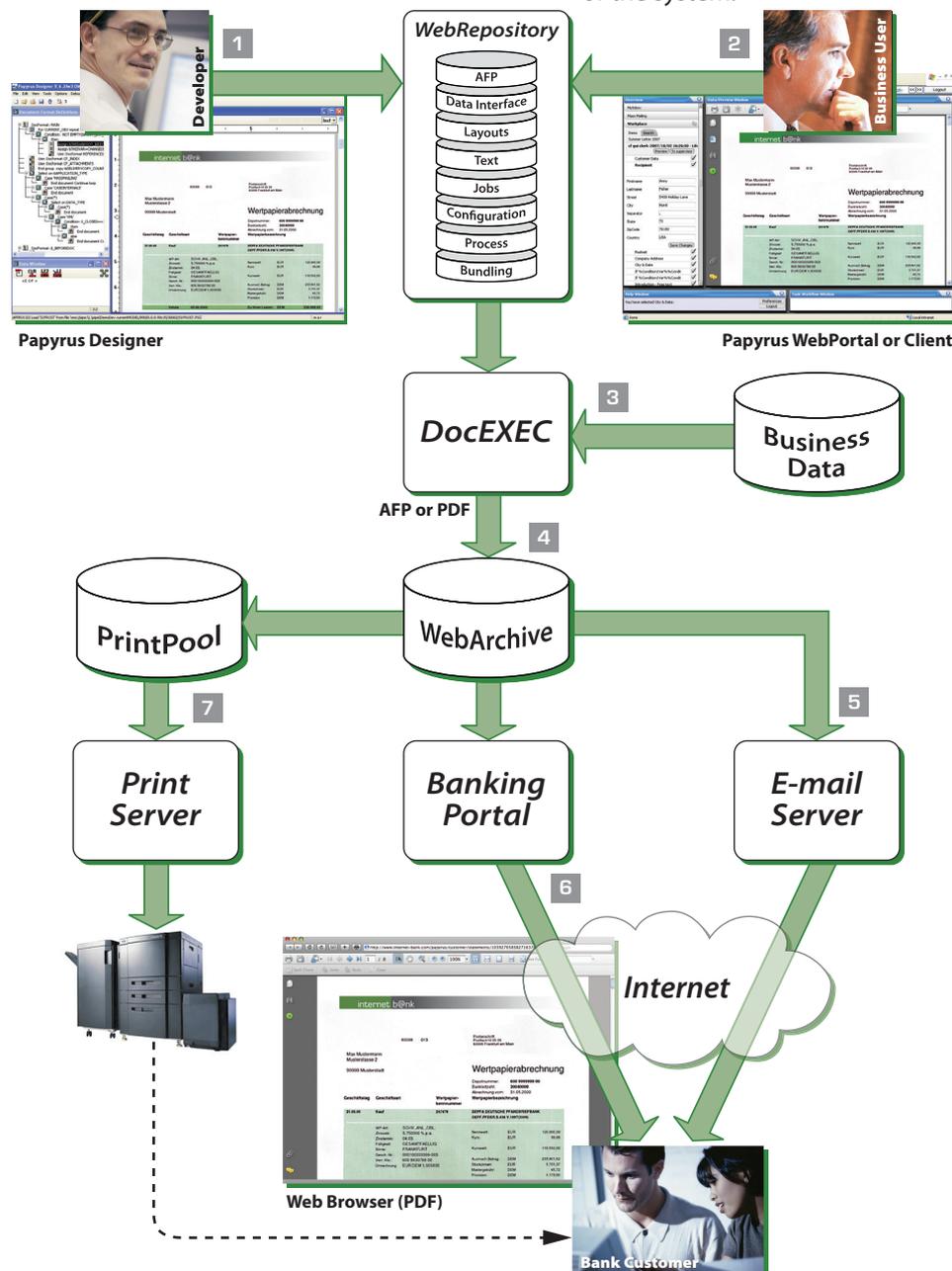
How the complete production cycle was implemented

step 1 Document Design

Document resources, data, logic and layout definitions are developed with the integrated WYSIWYG Papyrus Designer on Windows. They are stored in the central Papyrus WebRepository. The business department uses the Papyrus WebPortal with the Papyrus EYE GUI to take part in the document development process and e. g. deliver marketing messages for promotions to be included in statements and reports.

step 2 Document Assembly

Business users authorized by their role and privilege edit text elements in a front-end document application either WebPortal or Papyrus Client based. To secure that only those text elements go into production that have been authorized, a sign-off process based on the 'four eye principle' was implemented. All building blocks generated by the users are versioned, possibly validated with date and time and stored in the WebRepository. They are automatically selected by Papyrus DocEXEC when formatting the document into AFP and/or PDF. Change Management based on user authorization and versioning of objects are integrated standard functions of the system.



step 7 Printing (optional)

Statements that were not viewed by the clients on the Web are automatically transferred after a certain time period from the WebArchive into the PrintPool. Each night a bundling and sorting run produces an AFP file with enveloping OMR markers. They are automatically mailed using the central print and enveloping setup.

step 3 Formatting

The input data is read by DocEXEC. The layouts/forms, resources and text elements are dynamically loaded by DocEXEC to be formatted with the business data into an AFP or PDF file. At the same time also all needed indexes are generated by DocEXEC. In case of missing elements, an error log file is generated.

step 4 DB Check-In

The documents produced in batch are checked into the Papyrus WebArchive objects database.

step 5 Notify by E-mail

The customer is informed by an e-mail notification which contains a URL linking to the available documents. These e-mail notifications are sent at night.

step 6 Web Viewing

The user logs in through the bank's website where security and authorization is performed by the banking portal. The WebArchive interface generates a list of available documents for this customer. Once the user selects a document from WebArchive, they are converted on the fly from AFP to PDF for viewing. Alternatively they can already be stored in the Webarchive in PDF with book-mark indexes.

e-Billing Solutions across Platforms and industries

In an ideal world a company needs to implement only one solution with one set of standards and interfaces for print and electronic delivery.

Your business documents are your primary points of contact with customers. With Papyrus design and formatting capabilities you can create bills which are customized down to the sentence for each individual recipient. They can be formatted in high volume batch or on-the-fly and be delivered to the Web, per e-mail or printed on a printer of your choice in identical quality.

Strengthen customer relationships with highly individualized 1:1 Business Communication.

The perfect bill is logical, easy to read and includes all important information. It also contains valuable usage histories for the account presented in eye-catching charts. Color, graphics and typographic fonts, dynamic tables and conditional marketing messages are simply defined in the WYSIWYG designer and identically presented in the browser and on paper.

Papyrus Billing References

- Telekom Austria **Austria**
- Belgacom/Belgacom Mobile **Belgium**
- Northern Telephone **Canada**
- Postens Mailburo **Denmark**
- debitel **Germany**
- T-Mobile **Germany**
- Mannesmann Arcor **Germany**
- Neckermann **Germany**
- Quelle AG **Germany**
- Stadtwerke Kiel **Germany**
- Stadtwerke Wuppertal **Germany**
- Vodafone **Germany**
- BEZEK **Israel**
- Israeli Electric Company **Israel**
- Edisonel **Italy**
- PMS **Italy**
- Maxis **Malaysia**
- Telefonica del Peru **Peru**
- Smart Communications **Philippines**
- Polcomtel **Poland**
- Singapore Telecom **Singapore**
- Gas Natural **Spain**
- Jazz Telecom **Spain**
- Swisscom **Switzerland**
- Far Eas Tone **Taiwan**
- Advanced Info Service Public Co. Ltd **Thailand**
- CAT **Thailand**
- Samart Corporation **Thailand**
- Thai Telephone & Telecommunications **Thailand**
- Telecomasia **Thailand**
- Total Access Communication **Thailand**
- British Telecom **United Kingdom**
- Orange **United Kingdom**
- 01 **United Kingdom**
- Verizon **United Kingdom**
- Virgin **United Kingdom**
- CGI **USA**
- AT&T **USA**
- Vertex **USA**
- Consumers Energy **USA**
- FirstEnergy Corp. **USA**
- National Grid **USA**

The collage displays several examples of electronic bills:

- Enersy Company:** A billing statement for Herb Murphy, featuring an account summary, payment information, and a usage chart.
- Telekom Austria:** A bill with a detailed table of services and charges, including a 'Remitted calls' table.
- Edisonel:** A bill with a table of services and charges, and a 'Notes and Details' section.
- Telekom Austria (another example):** A bill with a table of services and charges, and a 'Notes and Details' section.

Energy Corporation

Real Solutions go beyond billing

The Energy Corporation is an integrated energy company whose business strategy is focused in the Midwestern United States. The company has 120 years of experience in producing, transmitting and distributing electricity and natural gas. Energy Corp. is one of the nation's largest combination utilities, providing natural gas and electricity to more than 6 million residents in all 68 Lower Peninsula counties. Energy Corp., through its subsidiaries, is engaged primarily in the independent power, natural gas transmission and wholesale energy service businesses.

Energy Corp. successfully went live in July 2008 with initially 13,000 clients using Papyrus for online bill presentment, e-mail delivery and automated high volume print and mail of 140,000 bills daily.

The attraction for the customer is the value added service on top of the bill presentment.

The true value of online Billing lies in the opportunity for extended customer care. Value added services can include online analysis tools on energy usage. Due to the deregulation there is a whole new era of what companies have to communicate to their customers. Different countries and states have different requirements. Companies can post frequently asked questions, for instance. Each call costs between 2 US\$ and 10 US\$ and a reduction in calls could be another measure of success.

New transpromo marketing possibilities can include banner ads, coupons and dynamic marketing messages in bills.

SAP® Certified
Integration with SAP NetWeaver®

Quick Facts

- Data from SAP and non SAP applications
- 200 document types developed with Papyrus Designer
- 6 different very complex consolidated energy bill statements
- Multiple workflows
- End to end processing of 140,000 bills daily within 3.5 hours
- Formatting, Postprocessing, e-delivery, printing and archiving
- Online bill viewing in PDF: 13,000 users access Papyrus WebArchive per day
- Customer Care: 500 call center users
- Papyrus WebPortal and 5 HTTP Adapters
- Platform: HPUX Itanium
- Production printers: IPDS and PCL
- E-mail delivery with PDF attachment

NRG CORP.

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"IF YOU SMELL GAS, CALL US IMMEDIATELY DAY OR NIGHT AT 1-800-477-5850"

LANSING, MI 48937-0001

CUSTOMER NAME
CUSTOMER STREET
CUSTOMER CITY MI 48123-1234

Due Date: 10/18/07 Total Due: \$64.86

IN AN EMERGENCY, CALL US 24 HOURS A DAY AT 1-800-477-5050.

For non-emergencies or information about rates and services, call 1-800-477-5050, visit us on the internet: WWW.CONSUMERENERGY.COM, or use our 24-hour fax at 1-800-363-4636.

NAME	CUSTOMER NAME	ACCOUNT NO.	1E 88 38 2005 92
SERVICE ADDRESS	Customer Street Customer City MI 48123-1234	BILLING PERIOD	08/29/07-09/27/07
		DAYS BILLED	30
		DUE DATE	10/18/07
RATE: 200H Electric Residential Service		POD: 000000915561	
250 Gas Residential Service		POD: 000000915579	

METER NUMBER	LOCATION	REGIN	END READ	READ TYPE	DIFF	CONSTANT	ENERGY USE	UNIT
3032501	Customer Street	67563	67961	ACT			398	KWH
25049356	Customer Street	8421	8436	ACT	15	0.1	1.5	MCF
TOTAL METERED ENERGY USE							398	KWH
							1.5	MCF

ACCOUNT STATUS

Last Month's Consumers Energy Account Balance: \$79.77
Payment Received Sept 28 - Thank You: \$79.77-
Account Balance Before Current Charges: \$0.00

Any Payments Applied After The Billing Date Of Oct 02, 2007 Are Not Included

CURRENT BILL

RATE 200H 08-29 TO 09-27

Electric Power Supply Charges								
Energy Charge	598	KWH @	0.053718				\$21.38	
Power Supply Cost Recovery	398	KWH @	0.014360				\$5.72	
Electric Delivery Charges								
Elec Distribution Charge	398	KWH @	0.026594				\$10.50	
Delivery Surcharges ¹							\$1.94	
Securitization Charge	398	KWH @	0.001265				\$0.50	
Securitization Tax Charge	398	KWH @	0.000456				\$0.18	
Pollutes Plant Sale Credit	398	KWH @	0.004385-				\$1.74-	
Total Electric							\$38.56	

RATE 250 08-29 TO 09-27

Gas Charges								
Customer Charge							\$9.00	
Distribution Charge	1.5	MCF @	2.047000				\$3.07	
Gas Cost Recovery Charge	1.5	MCF @	7.823800				\$11.74	
Total Gas							\$23.81	
SALES TAX							\$2.49	
TOTAL CURRENT BILL DUE ON OR BEFORE 10/18/2007							\$64.86	
TOTAL AMOUNT DUE							\$64.86	

After the due date, a 2% late payment charge will be applied to the unpaid balance.

¹ Delivery Surcharges include the Electric Customer Choice Implementation Surcharge. If you purchase your power supply from Consumers Energy, a Security Recovery Factor and Regulatory Asset Recovery Surcharge also are included.

Elec Use/Day - This Month 13 KWH Last Year 14 KWH
Gas Use/Day - This Month 0.050 MCF Last Year 0.054 MCF

12-MONTH HISTORY

	Sep 07	Aug 07	Jul 07	Jun 07	May 07	Apr 07	
Elec-KWH	597	1010	487	551	545	502	
Gas-MCF	1.0	1.0	0.9	1.5	7.9	9.4	
	606	942	797	619	576	378	TOTAL HISTORY
Elec-KWH	Mar 07	Feb 07	Jan 07	Dec 06	Nov 06	Oct 06	7261 KWH
Gas-MCF	15.9	12.7	11.7	7.8	5.0	1.5	76.3 MCF

Please make any inquiry or complaint about this bill before the due date.

www.nrgcorp.com

Extended customer care – make your call center a sales center!

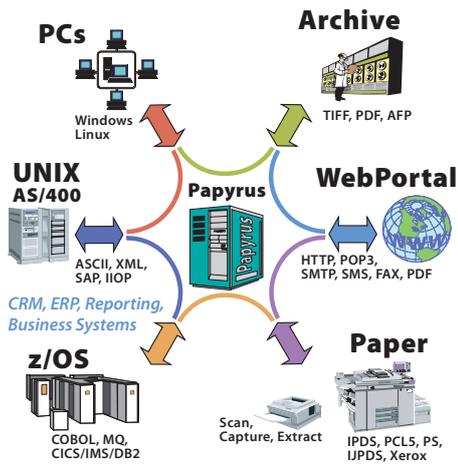
There are opportunities to cross sell and upsell online using hyperlinks in the bill. For example: If you are interested in this new product or service – click here!

NRG Corp. website

Human need exists 365 days a year. Please consider a tax-deductible donation to PeopleCare.

Safety First when Using Supplemental Heating.

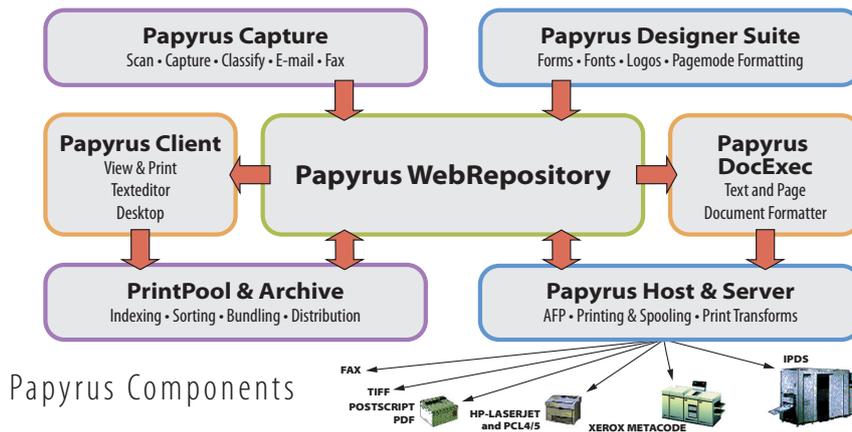
A comprehensive and scalable solution for centralized management of document applications, print and output operations that span web, client/server and host environments.



Papyrus Document Frameworks

- Adaptive Case Management
- Automated Document Factory
- Enterprise Application Integration
- Enterprise Output Management
- Enterprise Content Management
- Business Process Management
- Portal and Web Applications
- Change Management
- Correspondence
- Campaign Management
- Print Management
- Capture/Classify/Extract
- E-mail, Fax

Organizations can define, measure, and manage output management across complex heterogeneous environments from centralized control points.



A selection from over 2000 ISIS Papyrus References:

Finance Sector uses Papyrus

Citibank, Deutsche Bank, HFC Bank, UBS, Credit Suisse, BNP, Capital One, Lloyds TSB

Insurance uses Papyrus

Allianz, Generali, Thrivent, RAS, Great West Life, Sun Life, HBOS, Zürich, Hibernian

Healthcare uses Papyrus

AXA, HUK, Empire Health Choice, Siemens Medical Systems, Sanitas, Hallesche

Telecommunication uses Papyrus

Bell South, SwissCom, T-Mobile, Debitel, Orange, Singapore Telecom, Belgacom

Public Sector uses Papyrus

EDS Department of Social Services, EDS Jobseeker, European Patent Office

Manufacturing uses Papyrus

Avon Cosmetics, Bally Shoes, BASF, Canon, IKEA, Miele & Cie, Renault, Volkswagen

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