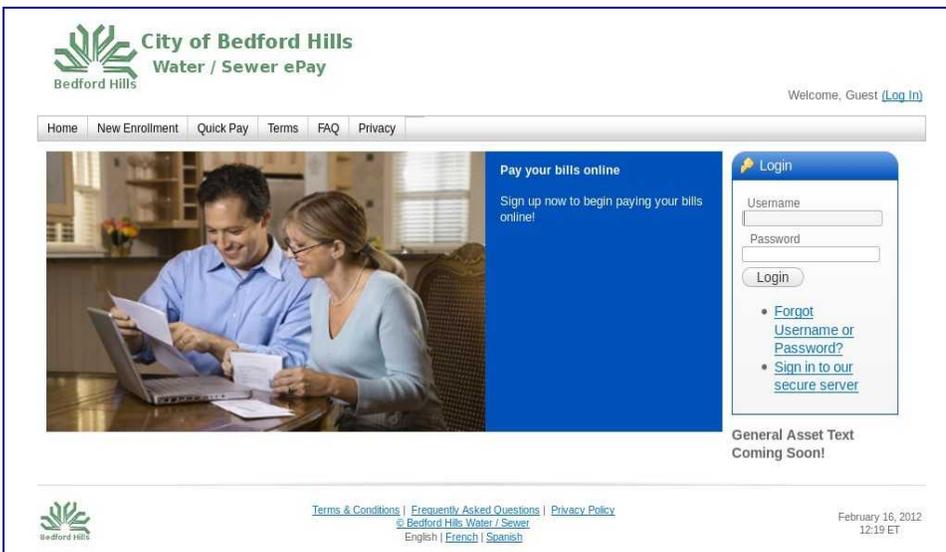




Outline	
Date:	1/28/2012
	6247 West 74 <sup>th</sup> Street Bedford Park, IL 60638 phone: 312-243-9300 fax: 708-546-3166 email: <a href="mailto:info@sebis.com">info@sebis.com</a>

## 1. Introduction

**eDocument Direct** provides a reliable, secure and comprehensive electronic document delivery channel and payment processing system using the Internet.



### Integrate Online and Offline Documents.

**eDocument Direct** delivers the economy and efficiency of the Internet channel for delivery of documents such as invoices, dues bills, notices and newsletters. This online solution is fully integrated with document production and Content Management.

### Close the Bill Delivery and Payment Gap.

Reduce the payment cycle on your receivables by offering online bill payment services. Typical payment times on posted bills are 7-10 days - but with online bill payment you can provide your customer with an online payment option - reducing payment times to just a few days.

### Accept Online Payments.

We provide secure eCommerce services and can accept incoming payments for your customers. The interfaces they see are branded with your identity for a seamless experience. Reduce your payment cycle and speed-up cash flow by accepting online payments for your invoices and bills.

### Use Your Existing Billing System and Bills.

Your organization does not need to change its current billing software – or even the appearance of its bills.

### Reduce Postage.

By allowing your customers to choose electronic delivery, your organization will save significant postage expenses. Adoption depends on industry, but even a low adoption percentage such as 15% will provide significant savings.

### Provide Choices to Your Customers.

Bill payment is different in each household. Today's customers prefer to choose how they interact and communicate with their providers.

### Provide a Green Alternative.

We all know that paper is renewable. Your customers want your organization to “go green”. Provide the electronic delivery choice they are looking for.

### Integration With Paper Billing.

Documents created for your invoices, statements, late notices, etc., are immediately available on the internet. There is no need for separate systems. This makes change management simple as changes to documents are propagated to all delivery channels at once. Bill document content is separated from presentation so that documents can be delivered via paper and electronic channels. The presentation of the document is automatically tailored to the delivery channel.

**Web 2.0 Interface**

Site utilizes web 2.0 features such as AJAX, javascript and YUI libraries.

**Multilingual**

Use and offer as many languages as you like. All text content is stored in object containers that are easily switched to the language selected by the user or automatically provided by the locale preference in the user's browser.

**Skinable**

The site will be skinned to appear as a seamless extension of your organizations web presence. Colors, backgrounds, fonts and buttons are fully skinable to match the characteristics of your organizations web styles.

**Open Source**

Significant parts of eDocument Direct have been developed as a public collaboration. This reduces the chance of vendor lock-in and is generally accepted to produce software of the highest quality.

**Tablet Friendly**

Document displays and user functions work for popular tablets.

**Easily Configured**

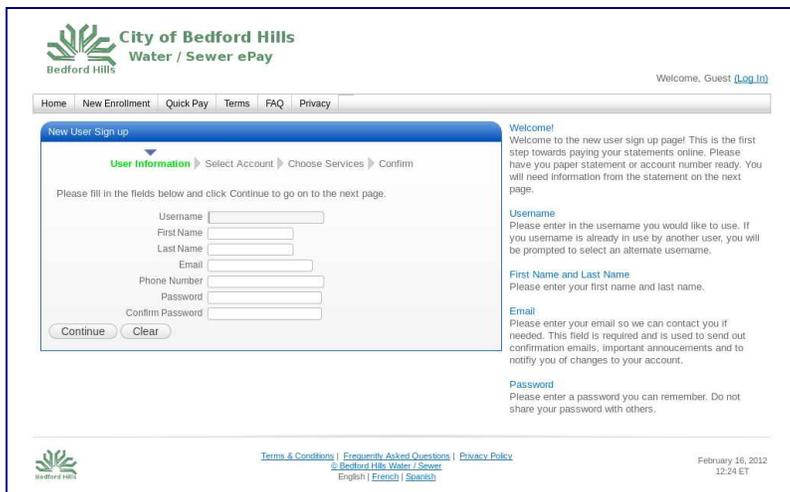
All site features and functions are described in easy to manage configurations.

**Single Sign On and Existing Users**

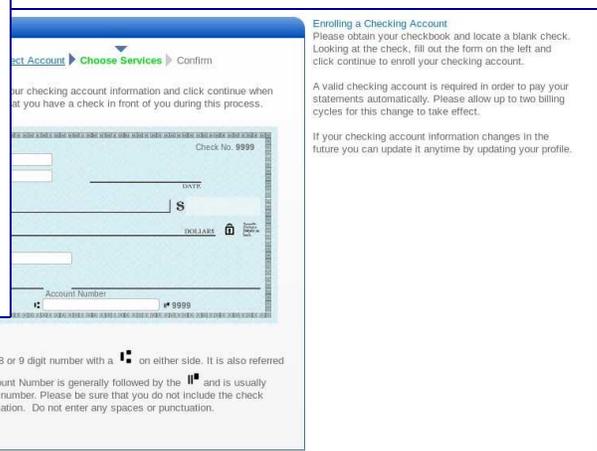
If your organization already has registered users, *eDocument Direct* can utilize your existing sign-ons and user accounts. Standard and custom sign on systems are supported. Standards include NTLM and LDAP.

**Web Content Management (WCM)**

Content of pages and text throughout the system is easily managed by an on-line share WCM system.



Enrollment is the procedure that people use to authenticate themselves and become secured and privileged users of your system. Customers want to choose how they interact with your organization.



The Bank Routing Number is an 8 or 9 digit number with a  on either side. It is also referred to as the ABA Number. The Account Number is generally followed by the  and is usually located to the right of the routing number. Please be sure that you do not include the check number when entering this information. Do not enter any spaces or punctuation.

The enrollment process authenticates and provides communication and billing options to your customers.

**Authentication**

How do we know if this prospective user can view and pay bills for a particular account. Any form of authentication and even multiple forms of authentication can be set-up. Typical tests include matching an account number with a service address or a date-of-birth. PIN numbers on billing documents can also be used.

Any form of authentication is available.

**Properties**

Any data items can be added in addition to standard ones. Custom data such as phone number or birth date can be collected during enrollment.

**Email Confirmation (Optional)**

The email address provided by the user can be confirmed before the user is allowed to use the site. A confirming email is sent to the user with an encoded link. Once the user clicks on the link, full user privileges are granted.

**Service Options**

The user can select any of the communication and payment options you provide. Selections include yes or no to paper billing, email and optional automatic credit card or check (ACH) payments. Even faxing can be provided.

**Suggesting Service Preferences**

During the enrollment process, encourage your user to go green saving your organization the expense of mailing paper bills. The flow of the enrollment process can encourage the user to select the most cost effective billing method for your organization.

**Confirmation of Terms**

When confirming the enrollment selections, the user will affirm your terms and conditions of enrollment.

**Instant Use (Optional)**

At the conclusion of enrollment, the user can proceed directly to view and pay a bill.

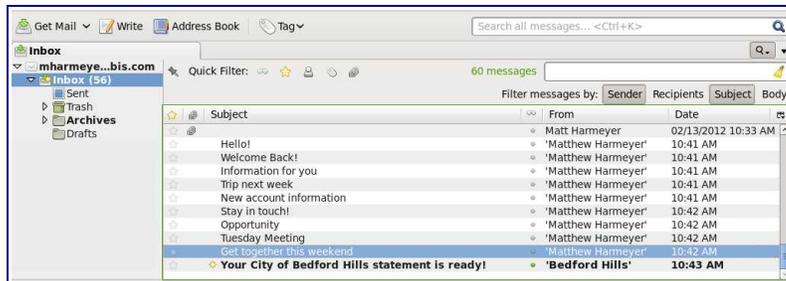
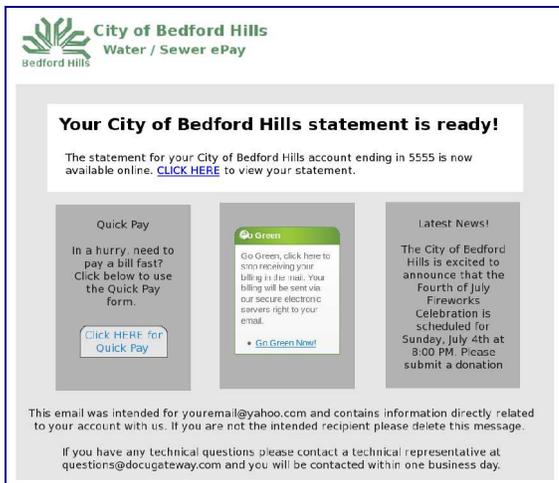
**Pre-existing Services**

If your customer has already selected a billing option such as a payment plan or automatic ACH debits, these choices will be recognized and can be preserved in the enrollment process.

The enrollment process will recognize the customers existing preferences.

**Language**

The user may specify the language he/she prefers for paper billing.



Document Direct can deliver billing documents to your customers several ways.



**eMail a Link.**

A notice is sent to your customer from your organization. The notice informs the customer that he/she can click on a link and view or pay the bill. This is a very secure method because the bill document is not sent using email.

This email can contain relevant and timely content in addition to the notice. It may also contain a message requesting that the customer go green and eliminate the paper mailed bill if he/she is still receiving a paper bill.



**eMail the Bill.**

In some cases, it is desirable to send the bill with the email. The bill is sent as an attachment. This method is generally used if little or no security or protection of personal information is required.

**Multiple Attempts Are Made.**

4 attempts are made to email your customer. These attempts are timed 6 hours apart. This is done to mitigate any temporary failures of email systems.

If all attempts to email fail, eDocument Direct can generate and mail a paper bill. This bill will contain a message indicating that the email failed and asks that the customer update the email address.



**Some Times You Still Need the Paper.**

Certain notices or document types must be paper mailed. For example, even if a user has elected to suppress paper billing, you may select certain document types such as a shut-off notice to be paper mailed in addition to electronic delivery.

This feature will also fall back to a paper document delivery method for a user whose electronic delivery channel fails to respond. Emails can be attempted any number of times. After all attempts fail, the paper version of the document will be generated and mailed. This document will include a notification to the customer informing him/her that he/she needs to update their information so electronic delivery may resume.

**Encourage the Electronic Option.**

Paper bills should remind and encourage the customer that he/she can enroll in eBilling and pay on-line.

**Grace Period Bills.**

As an option, your organization can send one last bill after a user elects to get bills sent electronically. This last bill thanks the customer for choosing electronic delivery and notes that this is the last paper bill he/she will receive.

If this is an error or unexpected, the customer can call customer service and learn more.

## 5. Bill / Document Viewer

Current User: Matt Sample (Matt12) User Home Current Account: 066200047800 Search

Water Bill

ACCOUNT: 066200047800 BILL DATE: 04/20/11  
NAME: SAM 100034 SAMPLE  
SERVICE ADDRESS: Sample Address 100034

METER INFORMATION  
FOR 93 DAYS OF SERVICE from 01/03/11 through 04/08/11

METER	CURRENT READING	PREVIOUS READING	USAGE (1000 GALLONS)
7681147	418	400	12
READ TYPE:	ACTUAL	ACTUAL	

CURRENT CHARGES:

WATER.....	\$ 59.64	PREVIOUS BILL	\$ 152.13
SEWER.....	\$ 23.88	LAST PAYMENT RECEIVED	\$ 159.41
REFUSE.....	\$ 50.28	LATE PAYMENT PENALTIES	\$ 7.28
		UNPAID BALANCE	\$ 0.00
		TOTAL CURRENT CHARGES	\$ 133.80
		TOTAL BALANCE DUE BY 05/11/11	\$ 133.80

10% late charge added to water charge if payment not received by due date  
Please see meter rate for additional billing information

Village Bulletin  
WE NEED YOUR 'TWO CENTS' ON WATER CONSERVATION. THE VILLAGE OF BEDFORD HILLS HAS PARTNERED WITH OUR METROPOLITAN AGENCY FOR PLANNING TO CREATE A WATER CONSERVATION AND EFFICIENCY PLAN. THE PLAN WILL FOCUS ON VILLAGE-WIDE WATER USE AND WATER SUPPLY ISSUES WITH THE GOAL OF INCREASING EFFICIENCY AND PROMOTING CONSERVATION. THE VILLAGE NEEDS YOUR INPUT ON THE WATER CONSERVATION PLAN AND HAS POSTED A SURVEY AT WWW.BHTHESURVEY.COM/SURVEYBYBEDFORDHILLS. IN ADDITION TO THE SURVEY, THE VILLAGE WILL HOLD TWO PUBLIC MEETINGS TO GATHER ADDITIONAL INPUT. THE FIRST MEETING IS SCHEDULED FOR 7:00PM, OCT. 18, IN THE VILLAGE HALL.

Bedford Hills

ACCOUNT NUMBER: 066200047800

TOTAL AMOUNT DUE BY 05/11/11  
AMOUNT PAID

50 066200047800500013380

Please Do Not Fold

Document Events

Event	Status	Who	Date / Time
EMAILED	Completed	bhagent	January 19, 2012 12:00 PM
VIEWED	Completed	bhagent	January 23, 2012 11:45 AM

### Any Number of Views

eDocument Direct uses thin client techniques to provide views of bill documents. Any number of views in various modes may be configured.

Let your customer drill down and see details.



### No PDF Viewer Required

Documents are displayed using Flash animations or HTML5. No PDF viewer is required on the browser or mobile device.

### Same As the Paper – Or Not!

Billing documents can precisely match the paper renditions or be optimized for various forms of web and mobile device views.

### Events

The bottom of the page shows all of the events that have occurred. See when the bill was mailed, viewed, emailed, paid, faxed, etc. Who performed the event and when each event is also recorded.

### User Delivery Actions

The document can be emailed, faxed or even re-mailed (optional)



### Security

Document displays and deliveries are fully encrypted.

### Rendering Format

The document is presented as either a Flash animation or in HTML5. No PDF viewer is necessary. The user can see the document on a full screen, switch pages, increase or decrease the zoom of the view. Works on Apple® devices.

### Document Properties and Metadata

All of the metadata, aspects and properties of the document are displayed in the upper right. If the document is a statement, each of the statement invoices can be viewed.



### Payment

If the bill is payable, the user may start the payment process here.

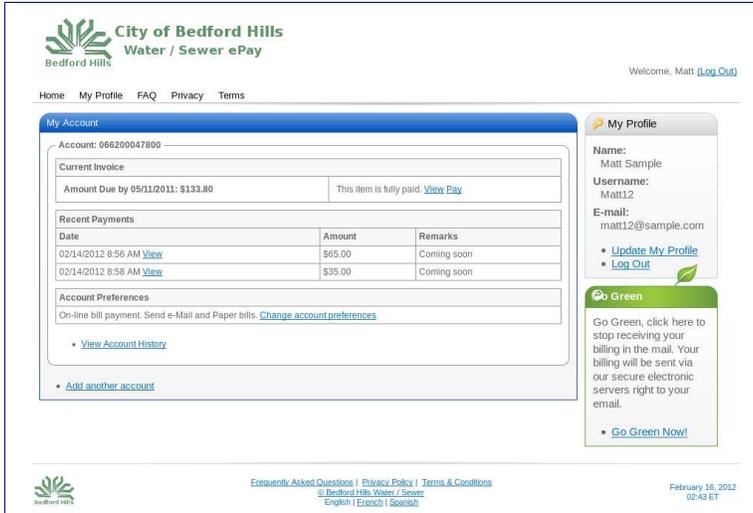
### Email an encrypted PDF

The user selects a password. The password is used to encrypt a PDF that is then attached and emailed to the recipient.



### Download PDF

Download a PDF of the bill for local viewing and printing.



### Instant Information.

When a user logs in, he/she is immediately presented with a simple to understand dashboard. It's easy for users to log-in, examine their bills and pay them.

A web-flow that works very similar to store fronts and is familiar to internet users everywhere.

A top banner component and footer contain links and is styled to match the appearance of your organization's web presence.

### User Home Page.

On log-in, the user is presented with a dashboard and a simple message and simple alert informing what needs to be done and any options and functions that are available.

### View Bills.

Available Document Views.

- HTML5 or Flash-based document viewer allows users to view their statement(s) and relevant metadata simultaneously.
- A downloadable PDF, viewable using the freely available Adobe Reader.
- HTML renderings
  - Full detail, itemized statements
  - Summary statements

### Lost Password.

A user can obtain a new random password in an email. As an option, the user can be forced to change his/her password on login.

### Add Accounts.

A user can add as many accounts as desired. There is no limit to the number of accounts that can be associated with a user.

### See Billing History.

A user can view a history of bills going back as far as desired. A records management policy determines how far bills are maintained.

### See Payment History.

A user can view a history of payments going as far back as desired.

### Change Preferences.

The user can change his/her preferences and even un-enroll at any time.

### Edit User Profile.

Users may edit their own information including name, passwords, email address and any other properties.

### Pay Bill.

Pay the most recent bill for any account or multiple accounts.

### Quick Payment.

Users can pay items that are not related to bills. Quick payments pages allows users to pay items that do not have bills or that originate bills. Vehicle taxes, building permits, and licenses of all types are payable.

### Make Future Payment.

Payments can be scheduled to be paid immediately or at future dates.

### Make a Payment Plan.

Users can schedule a series of payments to be applied to an invoice or account.

### Enroll in Automatic ACH.

This allows your customers to request automatic debit by using the internet. Many billers offer automatic debit once or twice per year by including sign-up forms in the paper bills. The *eDocument Direct* system allows your customers to sign up at any time. Checking and approval information is provided to you for bank payment processing.



### Go Green.

If your organization permits eDelivery of bills, the user is always presented with a "Go Green" component encouraging suppression of the paper bill.

Other pages and links such as Privacy Policy, FAQs and Terms and Conditions are visible.

## 7. Payment & Quick Payment

*eDocument Direct* uses a shopping cart like web flow that your customers are familiar with.

The screenshot displays a web interface for a water bill. On the left, a 'Water Bill' summary shows a meter reading of 11 gallons and a total amount due of \$136.23. The main area is divided into three sections: 'Invoice Details' (Name: SAM 100066 SAMPLE, Invoice Date: April 20, 2011), 'Payment Information' (Total Amount Due: \$136.23, Due Date: 05/11/2011), and 'Payment Details' (Total Payment Amount: \$136.23). A 'Payment Past Due' notification is visible, indicating a past due amount of \$136.23. The 'Payment Details' section includes a 'Credit or Debit Card' form with fields for Card Number, Name on Card, Expiration Date, and Security Number. A 'Continue' button is present at the bottom of the form.

Users can pay multiple invoices and even make payments on multiple accounts with a single check-out transaction.

### Support for Electronic check payment.

*eDocument Direct* allows you to accept checking account payments. This can be useful to reduce credit card merchant charges. Both guaranteed and non-guaranteed check payments are supported.

### Convenience Fees.

As an option, your organization can collect a convenience fee from the customer as part of an online transaction. The system will properly apply the convenience fee and the bill payment amount to your accounting system.

### Pay Anything / Quick Pay.

*eDocument Direct* allows your customers to make payments for items that do not have associated bills. This is useful to government as a fee collection system for things like parking tickets and permits. Each payment type properly collects information and applies payment rules so that any user (including the general public) can make a payment.



### Support for Multiple Currencies.

You can accept foreign currency. Payment amounts are adjusted to reflect exchange rates recognized by your organization. Bills can show amounts in any currency.

### Past Due Payment Notification.

When a payment is past due for a statement, the notification area will draw the user's attention to the past due payment using color and graphical cues.

### Counter Payments.

Customers can walk in to your office or use the phone. An agent can make a payment to their account without using or knowing username/passwords of the customer.

### Payment Features Available.

- Scheduled future dated payments
- Recurring payments
- Refunds, voids, dishonored credit transaction tracking
- One-time payments
- Stored Wallet Information
- Payment restrictions – bounced checks
- Late payment surcharges
- High / Low Payment restrictions

### Payment Options.

All Payment Types Accepted.

- Credit Cards, including VISA, MasterCard, American Express, and Discover
  - Available Fraud Protection
  - Settlement time configurable by region
- Electronic Checks
- Cash

### Automatic Card Type Recognition.

Card type recognition saves users time. The user does not need to select a card type. Simply enter the number as it appears on the card and the payment portal will determine which card type was entered.

### EFT for Credits to Customer Checking Accounts.

You can send payments to recipients using EFT.

### Saved Wallet Information.

Users can save their card information for future use.

**User Check Payments.**

When a user wishes to pay by check, they enter the Bank Routing Number, Checking Account Number, and the Name on the account in order to proceed.

Auto-ACH can lower the per-transaction cost of processing payments, increase cash flow, and help users manage their finances easier. During enrollment or later on, a user can choose Auto-ACH. *eDocument Direct* will collect checking account information and allow the user to opt-in for this efficient service.

## 8. Agent Features and Functions

The screenshot displays the user interface for the eDocument Direct system. The user is logged in as Sam Sample (sample) with account number 070100054500. The interface includes several sections:

- User Profile:** Shows personal information such as Username (sample), First Name (Sam), Last Name (Sample), Email (tony@sebis.com), Telephone, and Password (masked).
- Accounts (1):** A table listing account details.

Account Number	Date Added
070100054500	12/28/2011 4:00 AM
- Wallet Items:** A table listing wallet items.

Type	Ends With
wallet_types.visa	1111
Credit Card	1111
wallet_types.visa	1111
- Recent Documents:** A table listing recent documents.

Type	ID	Date	Due Date	Amount	Remarks
Invoice	070100054500	07/20/2011	08/10/2011	\$34.80	No payments
Invoice	070100054500	04/20/2011	05/11/2011	\$125.28	No payments
- Recent Payments:** A table listing recent payments.

Date	Amount	Remarks
01/03/2012 10:52 AM	\$34.80	
01/05/2012 7:38 AM	\$35.00	
02/13/2012 4:40 AM	\$50.00	
02/13/2012 10:45 AM	\$50.00	
- Payment Plan:** A section indicating there are no payment plans associated with this user.
- Account Services:** A table listing account services.

ERI1	ERI2	Email Attachments	Paper	AutoAch	Email Links	OnPay
No	No	Yes	No	No	No	Yes
- Account Restrictions:** A table listing account restrictions.

Allow closed enrollment.	Allow online check payments	Allow check payments	Permit Single User
No	Yes	No	No
- Other Users:** A table listing other users.

Full Name	User name
John Dumb	johndumb

Customer Service Agents and Managers throughout your organization need robust capabilities to interact and support customers. This includes all types of customer support such as taking payments and collections.

Agents may access many views of the *eDocument Direct* system. Agent roles can be configured in any way to reflect the governance of any organization.

Virtually any function a payer can do can also be done for the payer by the Agent.



### Account Management

- Restrict account functions.
- Disassociate or remove users from accounts.



### Reports

Run reports and data extractions. Agents can set-up and execute automatic reports. These reports run on a repeating basis.



### Bill Document Finder

Search for documents using any available criteria. Default search functionality on common elements such as Account, Name, and Document ID.

Once found, the bill is displayed by the viewer and all viewing features are available.



### Agent Management

Manage the creation, deletion, and modification of agents. Agent roles can be customized.

- Group by entity (location, region, area of responsibility)
- Define access by role and configurable groups.
  - Managers
  - Supervisors
  - Customer Service Agents



### Payment Access

Search for payments using any available criteria. Default search functionality on common elements such as username, payment type, date-range, authorization code, reference code, and account.



### Document Viewers

Enhanced functionality over general user feature set.

Document delivery options.

- Fax the document.
- Email the document.
- Mail the document.



### Payment Processing

- Accept payments in person or on the phone.
- Issue refunds.
- Void transactions.
- Adjust payments before settlement.
- Create / Delete / Modify payment plans.
- Allocate complex payments to specific items.



### User Management

- Restrict access to Accounts.
- Delete users.
- Issue new passwords. Update profile information.
- Create payment plans.
- Account restrictions (No check, Single user only).
- Manage wallet items; add, remove, modify.
- Add account to a user.

## 9. Reports and Data Extraction

**Card Payments**

Enter the date range and other options to run this report.

Date Range: 02/01/2012 to 02/24/2012

Format: **HTML**

Save Report: **Save to Repository**

**info.html**

This report queries payments made using a credit or debit card and returns the results.

HTML, data and PDF formats are provided.

---

**Payment Transaction Report** Report Run Time: Feb 24, 2012 3:01 PM

Source: bhwater  
Report From: 02/01/2012  
Report To: 02/24/2012

Card Type	# of Transactions	By Guest	By User	By Agent	Average Amount	Total Amount
Visa	8	\$ 334.08	\$ 136.23	\$ 300.00	\$ 96.29	\$ 770.31
MasterCard	1	\$ 0.00	\$ 0.00	\$ 200.00	\$ 200.00	\$ 200.00
Discover	1	\$ 0.00	\$ 0.00	\$ 99.28	\$ 99.28	\$ 99.28
American Express	0	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
<b>Total</b>	<b>10</b>	<b>\$ 334.08</b>	<b>\$ 136.23</b>	<b>\$ 599.28</b>	<b>\$ 106.96</b>	<b>\$ 1,069.59</b>

**eDocument Direct** incorporates the Business Intelligence and Reporting Tools Project (BIRT) for its reporting and data extraction capabilities. BIRT is an Eclipse-based open source reporting system for web applications.

val		
\$242.37		
\$226.36		
\$317.24		
\$189.31		

Any custom report or data extraction can be easily provided. Reports can be listings and can include any structures including charts and graphs.

See [www.eclipse.org/birt/phenix/](http://www.eclipse.org/birt/phenix/) for details.



### Platform

Business Intelligence and Reporting Tools (BIRT).



### Output Formats

Reports can be output as HTML, PDF and raw data.



### Storage

Reports can be viewed in real time or stored in an agent repository. Stored reports may be kept for as long as necessary and retrieved and viewed only by agent users granted this role.



### Automated Reporting

An agent user may set-up any report to run automatically at a variety of frequencies and times. The agent may select a report to run daily or as infrequently as monthly. The specific day of the week and time of day, etc. can be specified. Time spans such as data for last week or last month can be specified.



### Security

Every report and its output and the scope of its views of data may be configured to support any scheme of agent user hierarchy.



### Data Extractions

This tool can be used to extract raw or compiled data in plain delimited form to be used by your organization's own spreadsheets and reporting tools.

### Standard Reports

Detailed Payment Report	A listing of every payment received through this system. All report details are provided. It provides a total for each day. It also provides a total for the period examined.
Repository Summary	A detailed listing the contents of the repository. Includes total quantity of documents loaded in the repository. It totals each day and it totals the entire reporting period.
Site Activity	A detailed listing of various site activity. It totals each day and it totals the entire reporting period.
Future Payments	A listing of every payment received through this system. All report details are provided. It totals each day and it totals the entire reporting period.
Dishonored Credit Transactions	Report instances where the credit card issuer authorized a payment but, for various reasons, determines later that the transaction was invalid. The card issuer then either refuses to pay or, if it has already issued payment, charges the amount back to the merchant account and withholds the money from a future payment.
Customer Account	Queries the customer accounts in the databases and returns the results.
Card Payments	Queries payments made using a credit or debit card and returns the results.
Check Payments	Queries payments made using a check and returns the results.
Agent Payments	Queries payments authorized by an Agent and returns the results.

## 10. Bill and Document Repository



*eDocument Direct* integrates the Alfresco Enterprise Content Management platform. Alfresco is an open source and open standards Java content platform for building any content rich application.

- |   |  |
|---|--|
|  <b>Platform</b><br>Back-end repository is the Alfresco Document Management engine.   |  <b>Taxonomies</b><br>Support of any method of identification, naming, and classifying of documents.  |
|  <b>Search</b><br>Search engine supports all types of search forms and simple or complex search expressions.  |  <b>Events</b><br>Document events are recorded and associated. Events include viewing, emailing, etc.   |
|  <b>Security</b><br>Any form of document security scheme is definable and supported. Documents can be secured by type, entity, group, etc.  |  <b>Scalability</b><br>Alfresco has been proven to perform in environments of over 100 million documents and tens of thousands of users.  |
|  <b>Multi-Tenancy</b><br>Multi-tenancy features documents from access by users of other repositories. The repository instance is logically partitioned such that it will appear to each user that they are accessing a completely separate repository instance. |  <b>Support for Standards</b><br>Content Management API Standards - CMIS with a REST or Web services binding, JSR 170, WebDAV, CIFS, FTP, ODF, OpenSearch. Standards – RSS, Atom, JSON, JSR 168 |

See [www.alfresco.com](http://www.alfresco.com) for details.

## 11. Interfacing With Current Systems

Connecting *eDocument Direct* to your organization's accounting systems can be done with as little as providing the billing file and accepting a cash receipts file (like a bank lock box or 835 edi file).

### Lockbox File Processing.

Provide a sample lockbox file currently in use and it will be matched.

### Credit Card Merchant Account.

*eDocument Direct* can connect up to the merchant account you already have. Or, we can provide one.

### Support for Multiple Journals and Multiple Billing Streams.

Any number of different bill groups and types are supported. Users can make a single payment that pays bills from different systems or journals.

### Simple to Connect.

Payments are transmitted to your accounting system as a cash receipt lock box file. Any upload format is available.

### Bill Document or Billing Data Ingestion.

If Sebis is already producing your billing documents, then this feature is built-in. *eDocument Direct* can ingest any document data stream. This includes HP-PCL, PDF, Xerox, Postscript, data of any format, AFP, etc. Automatic meta-data extraction and categorization from any interface is provided.

### Counter Payments.

*eDocument Direct* provides you with counter payment capability. Your customers can walk in to your office or use the phone. A customer service rep can make a payment to their account without using or knowing username/passwords of the customer.

### Keep Your Current Paper Billing Process.

Connect to your existing paper bill production process if you want. We can process your data, so you do not produce paper bills that are unnecessary.

*eDocument Direct* is built on world class tools and technologies. Earlier versions utilized mainly home grown code and modules. *eDocument Direct* now utilizes technologies from these best-in-class open sourced resources. This allows Sebis to participate in the collaboration of developers worldwide. This also results in a more compliant and secure application because the security models and technologies are widely adopted and collaborated on from a worldwide community of mission critical enterprise content management developers.

Lastly, the adoption of these platforms permits rapid development and customization because much of the application's functions are object oriented and brought-in rather than requiring local development. The BIRT report developer and viewer is an example of this thinking.



**Document Presentation**  
Used to compose and produce simple to the most complex bill and statement documents.

XEP Engine is the formatting force behind paper document production. Complies with the World Wide Web open source XSL:FO definition.



**Database Interface**  
Using Hibernate allows *eDocument Direct* to work with any database engine.

Hibernate provides data query and retrieval facilities. Hibernate generates the SQL and automates result set handling and object conversion and keeps the application portable to all supported SQL databases with little performance overhead.



**Database**  
PostgreSQL is a powerful, open source object-relational database system. It has more than 15 years of active development and a proven architecture that has earned it a strong reputation for reliability, data integrity, and correctness. It runs on all major operating systems.



**Document Repository - User Management and Security**  
Alfresco is built on the strong foundation of a proven, open source enterprise content management platform that has been deployed at over 2,500 enterprises in 55 countries.

Billing documents are stored, managed, transformed and delivered within this framework.



**Reporting Tools**  
Business Intelligence Reporting Tools (BIRT) is an Eclipse-based open source reporting system for web applications, especially those based on Java and Java EE.  
  
BIRT can deliver reports and data extracts of any format from raw data to charts and graphs.



**Web Development Framework**  
Spring is the most popular application development framework for enterprise Java™. Millions of developers use Spring to create high performing, easily testable, reusable code without any lock-in.



**Web Server**  
Since April 1996 Apache has been the most popular HTTP server software in use. As of January 2012, Apache was estimated to serve 58% of all active websites and 65% of the top servers across all domains.



**Operating System**  
Linux has been ported to more computer hardware platforms than any other operating system. It is a leading operating system on servers and other big iron systems such as mainframe computers and supercomputers.  
  
More than 90% of today's top 500 supercomputers run some variant of Linux, including the 10 fastest.

## Hardware

Layered, redundant servers with fail-over capabilities.  
Full APC battery backup systems.  
On-site diesel backup generator.  
Dedicated production, development, and staging environments.  
Rapid application deployment.  
Distributed application environment.  
Dedicated web servers.  
Dedicated database servers with full replication.  
Dedicated multi-tenant content repository with full replication.  
Physical managed firewalls.  
Cardholder information stored as encrypted data behind firewall and 2<sup>nd</sup> internal firewall.

## Software

Alfresco Enterprise Content Management for all document management and user security.  
Database services Hibernate / PostgreSQL.  
Reliable Apache Web Server application.  
Custom configurations to accommodate unique needs.  
AJAX pages using XML, JavaScript, and JSON for faster online user experience.  
Custom CSS styling.  
RenderX XSLT Transformations for on-demand document transformation and display. Document archives fully XML compliant with version control of presentation stylesheets. Presentations and document transformations use only standards-based data storage and document composition tools and methods.  
Report generation: BIRT (Business Intelligence and Reporting Tools)  
Server-side Java services and APIs.  
Secure SSL encryption for client server communications.  
Additional security provided by the Alfresco graphical proxy.  
Spring / Surf MVC.  
Site utilizes web 2.0 features such as AJAX, javascript and YUI libraries.  
Full CMIS Support.  
Provides repository interoperability, reduces vendor lock-in and simplifies content migration.  
Open Source Objects and Modules.  
Standards Driven.  
Based on industry standard development tools (Java, Spring, Javascript, Freemarker, XSLT, etc.) allows developers to leverage existing skill sets.