

CUSTOMER NEEDS AND STRATEGIES

Autonomy Cardiff Intelligent Documents Offer Dynamic Approach to BPM

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IDC OPINION

Autonomy Cardiff Intelligent Document software is built around the concept of the "intelligent document," which contains its own rules about information that needs to be captured, what needs to be approved, and where the intelligent document needs to go to collect the information and approvals. This approach makes Cardiff's Intelligent Document framework for process automation very dynamic.

The Intelligent Document framework — LiquidOffice BPM, eForms, and Mobile, along with TeleForm — extends across mobile platforms, paper-based forms, and the browser.

One enterprise interviewed for this study was able to reduce data entry time from an average of six minutes down to seconds through the use of Cardiff software. Although performance improvements have not been fully measured, this human resource outsourcer will decrease cycle times and increase its time to first revenue through its implementation of LiquidOffice. The project is aimed at streamlining the process around client and employee onboarding.

A Fortune 100 bank has standardized its departmental BPM on LiquidOffice and has successfully deployed it in several projects, including money transfer investigations and general ledger process automation. In addition, the bank also has standardized on TeleForm for capturing data from paper forms and documents. Autonomy Cardiff offers a strong solution for those organizations that:

- Have paper-centric automation requirements
- Are automating tasks around people, where ease of use would greatly simplify adoption
- Need to automate processes with key activities that don't follow a predictable path and can benefit from a more dynamic and ad hoc approach

IN THIS STUDY

This study is one of a series of IDC Customer Needs and Strategies studies that examine how customers are using various business process management products. In this case, we discuss the Autonomy Cardiff Intelligent Document product family with two customers. One is a midmarket business process outsourcer, and the other is a Fortune 100 bank. The goal is to gain an understanding of their requirements, why they purchased Cardiff software, their experience working with Cardiff, and their results.

SITUATION OVERVIEW

Although it seems that computers are everywhere, a significant number of employees have no regular access to computers at work. In addition, regulations continue to require the use of paper to conduct business.

Cardiff, the business process management (BPM) unit of Autonomy, leverages its expertise in both paper processing and electronic forms to offer customers a sophisticated approach to business process automation that minimizes the hassles associated with paper and offers a user interface that looks like the digital equivalent of paper, making the experience of filling out forms and reviewing information very much like paper, from an ease-of-use perspective.

Most importantly, however, Cardiff's offering is built around the concept of the "intelligent document" that contains its own rules about data and documents that need to be captured, what needs to be approved, and where the intelligent document needs to go to collect the data and approvals. This approach makes Cardiff's Intelligent Document very dynamic.

Intelligent Document is a product family that includes LiquidOffice BPM, TeleForm, and LiquidOffice eForms.

Gevity, a human resource outsourcer for payroll and employee-related insurance, purchased the Cardiff products to streamline its client and employee onboarding process and uses both the paper capture capability as well as forms-centric workflow automation.

A Fortune 500 bank has integrated TeleForm with all of its workflow systems and in addition has standardized on LiquidOffice for its departmental BPM solution. It collects data from workers and Access databases using forms and workflow.

Autonomy Cardiff Backgrounder

Cardiff, based in Vista, California, is a business unit of Autonomy, a \$250 million publicly traded software company with a portfolio of products for managing and retrieving unstructured information, including secure search. Cardiff was founded in 1991, and its initial product was TeleForm, its image and data capture product.

Cardiff launched LiquidOffice in 2001. A process server and embeddable SDK was added to LiquidOffice through an acquisition of Dralasoft.

Excluding services, Cardiff revenue was estimated to be approximately \$30 million in 2006, making it one of the larger BPM vendors.

The key concept around Cardiff's BPM offering is the intelligent document (see Figure 1). At the top is an electronic form, and underneath it are data rules that map the fields in the form to data sources. Underneath that is process intelligence, which determines what needs to be done with the document, including both workflow and rules. And at the lowest level is the connectivity layer that links the data to target and source systems.

FIGURE 1

Autonomy Cardiff Intelligent Document Functionality



Source: Autonomy Cardiff, 2007

Each document — or container — maintains a model of what needs to be in the container, what the state of completeness is, what it needs to collect, and where it needs to go to collect the missing information. Therefore, nonlinearity is a key assumption of Cardiff's Intelligent Document framework. This dynamic routing capability results in more flexible process automation that minimizes exceptions.

The four products that make up Cardiff's Intelligent Document are:

- ☒ **LiquidOffice.** Cardiff's BPM suite, which includes modeling, workflow, monitoring, simulation, and a process repository for auditing and analysis (The focus of LiquidOffice is user-centric process automation. LiquidOffice also includes an SDK that makes it suitable for embedding into third-party software.)
- ☒ **LiquidOffice eForms.** Infrastructure that puts forms and documents online and connects forms to a database, ERP, accounting, and back-office applications

- ☒ **LiquidOffice Mobile.** Adapters that connect LiquidOffice in real-time to mobile devices
- ☒ **TeleForm.** Captures data from paper forms and documents, validates the data, and passes it to enterprise systems

Autonomy IDOL Integration into Intelligent Document

Cardiff's parent company, Autonomy, provides infrastructure that automatically categorizes, tags, links, retrieves, and profiles all forms of unstructured information in real time across heterogeneous content repositories. This infrastructure, which Autonomy calls its Intelligent Data Operating Layer (IDOL), is integrated with LiquidOffice and with TeleForm.

LiquidOffice uses IDOL for process-centric search and retrieval. In addition, the company also launched a feature late in 2006 that automatically identifies and suggests subject matter experts that a user can contact in any step of a process that is based on IDOL.

Both LiquidOffice and TeleForm support barcode functionality. TeleForm extracts information from barcodes on scanned documents. LiquidOffice encodes information on an eForm and prints it out as a barcode along with the rest of the form.

When a paper form is digitized, IDOL is used for the TeleForm Intelligent Document Classification Module.

Intelligent Document Key Differentiators

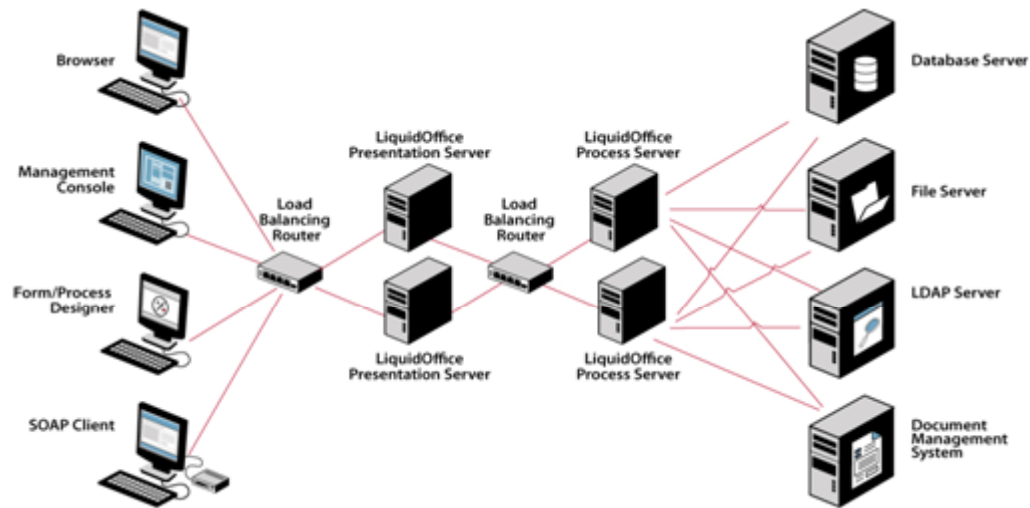
LiquidOffice BPM is similar to other BPM suites in that it has all of the basic capabilities of a suite: modeling, process execution, and monitoring. In addition, it has strong forms creation capabilities. Differentiators include:

- ☒ Tight integration of paper into process automation through TeleForm
- ☒ Strong process search capabilities through integration with the IDOL platform
- ☒ Dynamic routing of intelligent documents

LiquidOffice platform is built on the Java platform in a multitier architecture that provides clustering and redundancy at each tier to assure a high level of scalability and fault tolerance. This scalable, fault-tolerant architecture eliminates any single point of failure (see Figure 2).

FIGURE 2

LiquidOffice Architecture



Source: Autonomy Cardiff, 2007

Gevity Adopts Cardiff for New Client Onboarding

Gevity serves as the full-service human resources department for small and midsize businesses. One of its core processes is bringing new clients and their employees on board. In 2005, Gevity executives decided to revamp the company's client onboarding process to accomplish several goals:

- ☒ Streamline the time it took to bring a new client and its employees on board
- ☒ Improve the accuracy of a new client's first payroll
- ☒ Improve the consistency and look of its offline and online forms

Management wanted to improve cycle time and decrease error rates using the same basic process and same sets of forms. Members of top management asked themselves if they could mimic what they did using this new tool, reduce cycle time, and provide their clients and employees with more accurate and professional-looking forms.

Gevity's Onboarding Requirements

Meeting these objectives meant that whatever was implemented would have only minor impact on employees responsible for bringing new clients on board. Gevity identified BPM software as the core tool that would help the company and also identified four major requirements of the BPM software:

- People-centric workflow
- Automated paper forms processing
- Ability to link employees and their paperwork to employer
- Improved process around obsolete forms

People-Centric Workflow

When Gevity adds a new client, there is a review process that begins in the request for proposal phase, where information is collected and services are priced. When a client accepts Gevity's proposal, another review cycle is initiated that involves bringing that new client's employees on board.

In order to streamline and speed up the onboarding processes, Gevity determined that it needed workflow around approvals to make sure the right people approved different aspects of the contract and the addition of the customer's employees. Beyond task management, Gevity needed granular control of reviews by different departments.

Automated Paper Forms Processing

Gevity clients range in size from 20 to more than 3,000 employees. These employees work in blended online/offline worlds. They include health services, laundry, and dry-cleaning businesses, truck drivers, organizations with workers who sit behind computers, and more. Because of this mixed environment, Gevity needed a solution with both offline and online capabilities. In addition, many of the forms legally require signatures or copies of the original paper documents. These needs required a solution that was able to:

- Convert paper forms and documents to digital and extract data from those forms
- Convert and merge elements such as a signature into an existing digital form
- Barcode print forms for delivery to clients, who in turn, complete them and fax them back for digitization

Linking Employees and Their Forms with Employers

Gevity also needed software that could package employees with their digital paperwork and link those packages with employer packages. This would be used for a variety of activities, including bulk approval and for identification of and communications with its clients about missing paperwork.

Because information from the employees of new clients comes in via fax, Gevity also needed a way to merge new documents or missing information elements into an existing package and to keep track of which employees have returned information and what is still missing.

Improve Process Around Obsolete Forms

Gevity operates from 40 field offices across the United States. The offices print out forms and put them on their shelves. When a change is made to the form, the electronic forms library is updated, but the outdated form is not automatically replaced in the field offices.

Therefore, Gevity wanted a solution that would print out a high-quality version of the correct form as needed. In addition, it needed a solution that could identify missing pieces of information or documents and communicate with its clients about exactly what else was needed.

Gevity needed a solution that could identify missing pieces of information or documents and communicate with its customers about exactly what else was needed.

Vendor Selection

Because Gevity has standardized on Oracle and Linux, it went to Oracle first to look at BPEL Process Manager. However, the product could not merge signatures on paper with digital forms and then move the forms through an approval workflow. Gevity then decided to look at Adobe's LiveCycle and Autonomy Cardiff's LiquidOffice because they had strong, forms-oriented workflow solutions.

The difference between Adobe and Autonomy at the time of selection was Autonomy's TeleForm software, which offered Gevity the ability to scan and read handwriting, then digitize it. Although LiveCycle could embed signatures onto digital forms, it could not handle the conversion of paper-based forms.

In addition, LiveCycle could associate all the forms and documents with an employee, however, the software could not associate the employee package with a larger employer package. Cardiff committed to building this functionality in time for Gevity's implementation and was ultimately chosen because of the strong match of capabilities to requirements.

There were five IT staff assigned to the project team along with a project manager. From the business side, there were another 10 people involved at different times, including team members from risk analysis, field sales and service, and client onboarding. In addition, four to five consultants from Cardiff were also members of the project team.

Deployed Solution

Gevity maintains prospect information in salesforce.com. The sales team generates proposals using a pricing tool integrated into salesforce.com that automatically generates a PDF-formatted document, which is sent to the prospect.

Once the prospect accepts the proposal and becomes a client, Gevity imports the client data from its pricing tool into LiquidOffice. Gevity then uses an Excel template to create a list of employees and their data. That file is uploaded into LiquidOffice, and packages are created for the new client and its employees. The next step is to generate a set of barcoded documents and contracts for the client and its employees. This is done at Gevity's field offices, where one of the field employees enters in the client name and location to initiate the process.

When the package is created, the system may also create a number of different cover pages that serve as checklists for additional required documents, such as a copy of a workers' compensation certificate or deposit slip for direct deposit. Information collected by the client, including signatures, gets faxed back to Gevity, where it is converted, checked for quality, and converged with the employee and employer packages.

Various departments are automatically sent summary data on each form. That information is consolidated into a table view for people who have to review all the forms. Once they're approved, LiquidOffice uploads the data into Gevity's Oracle-based payroll system.

Gevity Results and Next Steps

By implementing LiquidOffice, Gevity found that it could reduce cycle time by modifying the process. The company hasn't yet fully measured its process improvements in the new system. However, initial results are very strong.

Prior to LiquidOffice, it took from five to seven minutes to key a new employee into the Oracle application. Adding a new employee using the new system, which went live in August 2006, takes seconds. For example, the company recently added a new client with 350 employees. Using the new system, the employees were loaded into Oracle in 20 minutes. Previously, the effort would have taken roughly 34 hours.

Using the new LiquidOffice-based system, which went live in August 2006, the employees were loaded into Oracle in 20 minutes. Previously, the effort would have taken roughly 34 hours.

This improvement both lowers the operational cost of adding a new client and its employees and reduces the time to first payroll. The latter was one of the initial objectives leading to the funding of this project.

IT has just scraped the surface in updating processes using LiquidOffice. The next project will probably be applying the model to the new hires of existing clients. Because 85% of Gevity's clients handle hiring entirely online, Gevity wants to create a set of forms for its clients to print out, fill out, and fax back to Gevity for automatic uploading.

Fortune 100 Bank Uses Cardiff for Paper Document Processing and Departmental BPM

This Fortune 100 bank first began using TeleForm for paper processing for its correspondence banking processes. TeleForm is now the de facto standard for data capture from paper. When LiquidOffice was introduced, the bank tested it and began using it for departmental workflow initiatives. It currently has more than eight processes built on LiquidOffice.

Money Transfer Investigations First Process Automated by LiquidOffice

The first process was for a money transfer unit that stored all of the bank's investigations in a Microsoft Access database. The unit opened up a second office, but the new office could not access Access over a wide area network.

The IT group created an investigation electronic form (eform). This form is filled out, submitted, and automatically loaded by LiquidOffice into Access. A new four-page form is created in the back office. As different clerks work on it, they add information and comments, and an audit trail is created. When the form is completed, the new data is added to Access, and a new report form is created that shows metrics, trends, and mistakes.

LiquidOffice's in-process searching capability was also implemented in this project because the investigators needed to search across six money transfer queues.

LiquidOffice Departmental BPM Standard

The IT group responsible for BPM uses LiquidOffice for process automation involving up to 300 people. It also looks for departments that collect data in an Access database, which is pretty commonly used at the bank as a departmental database. In addition, it accepts projects for LiquidOffice when they can be turned around in 90 days or less.

One of a small team of experienced developers is assigned to create the forms and automate workflow. That person works with a group in India to complete the LiquidOffice implementation.

There is a lot of demand for LiquidOffice, according to a bank technology vice president. He said the developers love to use the software and have become very sophisticated with what they can do with forms. Initially, they sent out an email from within a form. Now, they are doing very sophisticated soap calls that bring data back and forth. For example, the bank just finished a complex form with significant workflow for loan pricing. A form transfers information back and forth via a soap interface between loan consultants, a decision engine, and the central pricing operation where the loan is priced.

Another LiquidOffice process is a home equity lending worksheet where consultants download data to a Uniform Residential Loan Application (Form 1003). The consultants collect additional data and send it to the back office for origination of home equity loans.

FUTURE OUTLOOK

Cardiff's experience in document processing allowed the company to develop an approach to workflow and eforms that simplifies the user experience. Forms-led process automation also offers much greater mobility because users are not tied to browsers to fill out the form. At this point, Cardiff supports browser, paper, and BlackBerry forms.

With the acquisition by Autonomy, Cardiff taps into semantic capabilities that allow it to branch into complex search, including the ability to do in-process searching as well as identify expertise within an enterprise.

LiquidOffice's in-process searching capability was also implemented in this project because the investigators needed to search across six money transfer queues.

These capabilities are growing in importance and are relevant to all sizes of enterprises. As such, Autonomy Cardiff offers a strong solution for those organizations that:

- Have paper-centric automation requirements
- Are automating tasks around people, where ease of use would greatly simplify adoption
- Need to automate the process of collecting information and approvals, but the information-gathering path is difficult to predict and can benefit by a more dynamic approach

ESSENTIAL GUIDANCE

There are several lessons learned and critical success factors in the LiquidOffice deployments that are outlined in the following sections

Get the Business Side Involved to Develop Full Set of Requirements

Advice from Gevity is to get the business side involved heavily to make sure that everything is thoroughly vetted out. If you don't have all the right constituencies stating their requirements, then IT makes a selection that only covers about two-thirds of what is needed. It is important to include the users in the requirements-gathering stage.

Gain an Understanding of What Is Central to the Process

In the case of both Gevity and the bank, processing paper was key to the success of its automation efforts. In Gevity's case, converting paper into a digital format significantly improved cycle times that directly corresponded to cost savings and faster time to onboard a new client. The ability to send out prepopulated forms to clients improved service. And the ability to automate the integration of missing documents and pieces of information from paper sources improved service, decreased processing cycle times, and reduced error rates.

Had Gevity not had a solid understanding that its process automation would revolve around paper, it would have looked at many additional BPM tools but would not have gained the benefits it did through the selection of Cardiff.

It is important to understand what needs to be done really well around process improvement and then make a vendor selection with that as a key requirement.

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Develop a Bench with Experience

A key asset at the bank is a bench of developers with deep skills in business process automation. The more projects they take on, the more best practices become

ingrained in the automation projects. And, the more skilled the developers are, the less business needs to be involved in projects beyond requirements and feedback. This is especially true in regulated industries, where some of the process requirements are defined within regulations.

Focus on Data Quality

The success of the automation depends on having clean data from the beginning. Gevity was able to shift resources from data entry to verification and quality assurance, but improvement in onboarding cycle time is directly tied to data quality, and that should be a focus within a business process automation project.

Automate Existing Processes

Let technology be the advocate of the existing process. The onboarding project at Gevity took a year, with some false starts. But a decision was made not to upset the balance of how Gevity interacted with its clients in the field. When a BPM project makes employees more productive within an existing process, they are more likely to adopt the solution and develop strong advocates. Those advocates will help with widespread use of the new automation and, in addition, will recommend BPM to their peers.

Keep It as Simple as Possible

Regardless of BPM experience, it is important to keep the projects simple. Gevity simplified by automating existing processes. The bank only takes on LiquidOffice projects that it can deploy within 90 days.

Negotiate and Integrate When BPM Tool Doesn't Fully Support Requirements

Both customers interviewed for this study had requirements that couldn't be fully serviced by any of the tools they evaluated. In the case of Gevity, none of the solutions could bundle up employee packages for bulk approval. In the case of the bank, they needed an in-process search capability. In both cases, Cardiff agreed to adapt its software to accommodate the requirements.

Typically, this type of accommodation is handled when a customer agrees to pay for professional services to custom develop the capability or to integrate with another tool. But in both cases, Cardiff saw the requirements as capabilities that could become part of its feature set and would be relatively simple to implement. Therefore, it agreed to build them into LiquidOffice. This agreement benefited both sides. The customers got what they needed at a low cost; Cardiff got some customer-defined functionality that gave it competitive differentiation.

While this type of agreement is rare as products mature, every successful vendor can point back to a handful of crucial initial customers whose requirements essentially created the vendor's success. While BPM tools are rapidly maturing, the space is still young enough to expect some accommodation on the part of vendors. Gaining an

understanding of a vendor's willingness to cost-effectively adapt its software to win a deal should be part of the criteria against which a group of vendors are evaluated. At the same time, it is important to learn whether the feature is outside the scope of a BPM solution. In this case, a vendor's ability to integrate with other tools is another key requirement.

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☒ *IDC's Software Taxonomy, 2007* (IDC #205437, February 2007)

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