

WHITE PAPER

Enterprise Document Presentation: StreamServe Automates the Personal Touch

Sponsored by: StreamServe Inc.

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ENTERPRISE DOCUMENT PRESENTMENT IS THE FACE OF THE COMPANY

The larger a company gets, the harder it becomes for it to maintain some level of personal contact with its customers, suppliers, partners, and even with its employees. And yet, it is this very sense of individual caring and interest that enriches and improves the connection that the company has with its customers — and keeps them loyal. Customers feel no loyalty to a company that is faceless, that shows no sign that it knows who they are.

Unfortunately, one of the consequences of automating the enterprise's business processes is that the invoice, bill, or other mass-produced document is often the only contact that customers have with a company. These communications are usually the unattractive output of an ERP or financial system, and they are often confusing to read and hard to interpret. Worse, customers sometimes receive multiple and conflicting bills from the same company, or marketing promotions for products they've already bought or wouldn't want. While most companies have conquered the challenge of putting their data into these back-office enterprise systems, little thought has been given to the end product — the document that the customer receives. In fact, the appearance of the customer communications that are generated from these systems often seems an afterthought.

Putting a new face on these communications will certainly help the company to improve customer relations, attract new customers, increase its profits, and gain a competitive edge, but this has proven to be a difficult problem to solve. Large utilities, health care providers, retailers, manufacturers, and financial services firms have millions of customers. It is a huge challenge to automate output on this massive scale while improving the look of the documents and making them appear to be more personal. Performance and scalability requirements are extremely high, and these systems must be thoroughly reliable. They must be able to pull together data and content from multiple sources — from databases and content repositories, and from a variety of separate ERP, CRM, legacy systems, and other enterprise applications.

These underlying source systems have become even more complex now that account and billing information has moved online. With the rise of multichannel marketing and the "fourth channel" of the Web, the concept of a "document" has evolved to encompass not just traditional printed materials that are mailed to customers, but electronic communications delivered as customized Web pages, PDFs, HTML emails, SMS messages to PDAs and cell phones, and automated voice

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interactions. All of these new touch points are opportunities to foster customer loyalty, and they must be integrated and managed along with the traditional printed mailing.

With new advances in multichannel publishing, online design tools, and federated access to multiple data collections, it should be possible to mass produce attractive communications that appear to be aimed at the individual customer's interests and needs. However, that is frequently not the case because while so much time has been spent on the input side, very little has been spent on the last mile of communication with the customer. Since the ERP and CRM systems are central to the functioning of the company, it's important not to disrupt these systems in the process of creating better output from them.

That's the goal of enterprise document presentment systems: to produce accurate, personalized, customized, and interactive customer communications on a massive scale without modifying the underlying systems. They merge information, translate it into the appropriate language(s), and personalize it to give it multiple flavors across a single workflow. By mining the CRM systems — for individual interests, products purchased, or service subscriptions — and then matching the information to rules for cross-selling and up-selling, enterprise document presentment systems not only produce attractive customer communications that are tailored to individual needs, but they hold the promise of producing a compelling ROI. At the same time, enterprise document presentment systems improve internal business efficiency by consolidating information from multiple business systems, thus streamlining customer communications.

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STREAMSERVE CASE STUDIES

Capitalizing on Customer-Centric Opportunities

To better understand the needs of large companies in regard to enterprise document presentment, we interviewed several companies that have implemented StreamServe. Improving customer service, saving on printing and postage costs, the need to streamline business processes, and the desire for greater business agility were key drivers for their decisions to acquire StreamServe. These companies were responding to questions, such as:

- ☒ We spend far too much on paper and mailing costs. Is there a better way to control this — to reduce paper and postage costs, while maintaining a high level of customer satisfaction?
- ☒ Our customers receive a variety of correspondence from us — but it doesn't look like it all comes from the same company. How can we standardize the look and feel of our customer communications to strengthen our brand?
- ☒ We need the flexibility to print documents anywhere — and we may want to outsource a portion of our printing and mailing to manage costs — but we need centralized control. How can we achieve this?

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- ☒ We have too many developers coding different document formats from separate enterprise systems, all using different tools. How can we standardize our document presentment process to leverage our developers more effectively?
- ☒ Our customers want a choice of how they receive their statements from us — in the mail, via email, or online. How do we put a single, managed system in place to achieve this?
- ☒ Our bills are confusing to our customers – and our customer service call volumes are too high as a result. And it's often difficult for the customer service rep to help decipher the bill, because they don't have a copy of the actual bill the customer received. How can we put a system in place that gives us the flexibility to design more intuitively understandable bills and that automatically generates PDFs for customer service to pull up?

StreamServe has enabled these companies to streamline the creation and distribution of documents, and shorten the time required to communicate personalized messages and new product offerings to their customers. And StreamServe has helped them to reduce costs by efficiently consolidating information into fewer documents and helping them make the shift to electronic delivery.

Metzler Bank: Strengthening Brand Through Standardized Customer Communications

If you're a private bank offering a portfolio of investment banking services, you understand how important it is to put on one corporate face to your clients. So, what do you do if you have different software development teams writing the software that supports each of your services — all using different tools to generate documents from separate applications — and the documents your customers receive all have a different look and feel?

Metzler Bank, founded in the 17th century and the oldest family-owned private bank in Germany, implemented StreamServe to address this problem. Before StreamServe, each of Metzler's four development teams had to dedicate two full-time resources to code all of the different documents required. Today, it takes just two developers to design and script all of the bank's documents — freeing up six developers to work on new applications, which give the bank a competitive advantage. Customers can choose to receive their account statement via mail, email, or online, and all of the bank's customer correspondence has the same branding. StreamServe's flexibility provides Metzler yet another benefit: Metzler has been able to leverage its infrastructure as a service provider to other private banks, helping it to offset some of its IT costs.

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Circuit City: Implementing the Next-Generation Point-of-Sale System

If you're a large retail chain with hundreds of stores, you know what a huge operational challenge it is to deploy promotions and pricing changes in a uniform way across all of your locations. How do you automate this so you can respond instantly and accurately to market demand, and quickly launch innovative new promotions?

Circuit City is implementing StreamServe as part of the nationwide rollout of its next-generation point-of-sale system — a major strategic initiative led by IBM Global Services. The new system will give Circuit City centralized control over inventories, pricing, and promotions, and decentralized document generation in its 617 stores in 45 states. StreamServe will generate everything that isn't printed at the cash register — from shelf tags, sticky labels, and promotional materials to the pickup labels for the warehouse — giving Circuit City the flexibility it needs to innovate with new retail concepts, such as its successful new 24/24 service that combines online ordering with in-store pickup.

Akzo Nobel: Branding Business Documents Produced from SAP in Manufacturing

If you're a large manufacturer running SAP, you are already generating a tremendous number of different business documents — from invoices, shipping notices, and labels to sales documents, correspondence with customers, partners, and suppliers. But what if you are doing business around the world in a dozen countries, and each uses a different set of brand identities and logos? How do you automate the customized presentment and delivery of all of these documents to your key constituents with the right look and feel, the right branding, the right delivery mechanism, and in the right language? How do you develop the flexibility to accommodate new document types and layouts in a way that's consistent with your corporate records management policies?

Akzo Nobel Decorative Coatings implemented StreamServe to generate and brand its tremendous volume of business documents (more than 20,000 documents each day) in the 11 countries in which it operates. StreamServe EDP automatically formats documents with the correct look and feel according to the data they contain, replacing multiple output streams with a single system, and simultaneously sending PDF versions of the documents it generates to Akzo's IXOS records management system. StreamServe EDP also lets Akzo flexibly define new output formats: Akzo currently generates 50 different documents in English, Dutch, German, and French via print and PDF, email, EDI messages, and XML, with the help of just two full-time developers. StreamServe also makes it easy for Akzo to outsource some of its printing, where it makes economic sense, without giving up centralized control.

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Electricity Supply Board: Streamlining Billing, Strengthening Branding

If you're a large utility, bill generation is a major expense item. And if you're a typical utility, your bills probably aren't doing much to reinforce your brand and your value proposition. How do you meet the demands of high-volume printing of customer statements while improving the branding and appearance of these customer communications?

Electricity Supply Board (ESB), the leading electricity utility in Ireland with 1.8 million customers, implemented StreamServe to streamline presentment of more than 10 million bills per year from their SAP ISU system and help it meet the challenges of deregulation. StreamServe EDP automatically converts data from ESB's SAP system into AFP, applying complex conditional logic to create bills in English and Irish that explain the new billing format to customers. StreamServe also generates PDFs of customer bills for archival and enables customer service reps to see the exact bill the customer received when they receive an inquiry. StreamServe generates all of the output from ESB's SAP system – including the work orders that go to ESB's field crews. And according to ESB, StreamServe has saved them more than half the cost that SAP's printing solutions would have entailed, while giving them much greater flexibility in designing new business documents.

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REALIZING THE VALUE DERIVED FROM ENTERPRISE DOCUMENT PRESENTMENT SYSTEMS

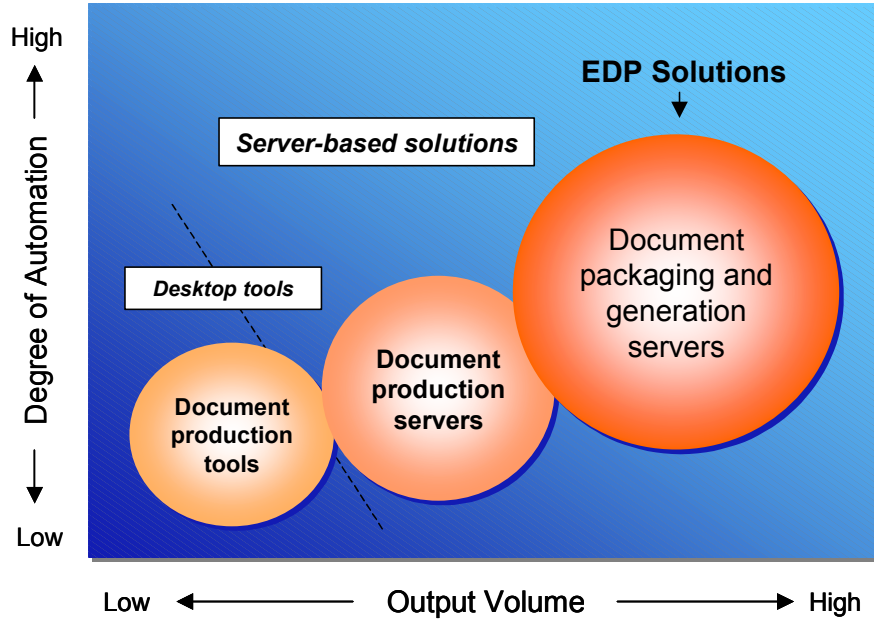
The case studies above demonstrate the value that enterprise document presentment (EDP) solutions provide in a variety of cases. IDC research illustrates the broader solution dimensions that mandate an EDP solution. Key criteria include output volume, the degree of customization/personalization required, the need for multi-channel publishing (print, Web, digital formats, mobile, SMS, etc.), and the importance of back-end integration with one or more enterprise applications. In general, the greater the complexity of the inputs (enterprise applications) and/or the outputs (multichannel publication and/or distributed printing needs), the greater the need (and the more compelling the ROI) for an EDP solution.

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EDP solutions represent the high end of the document production/generation continuum that IDC has defined as constituting the dynamic enterprise publishing (DEP) market (see Figure 1, below). Dynamic enterprise publishing solutions efficiently assemble customized documents from content components and data. Solutions range from low-volume desktop tools to high-volume server-based products that provide fully automated generation and customization of documents from content and data that are stored and managed in various repositories and enterprise applications, including ERP and CRM systems from SAP, Oracle, and other vendors. EDP solutions provide sophisticated features for dynamically selecting and incorporating content; formatting that content conditionally, according to rules; and delivering formatted content in multiple formats to multiple devices.

FIGURE 1

Dynamic Enterprise Publishing – EDP Solutions



Source: IDC, 2006

Key Capabilities of EDP Solutions

EDP solutions enable enterprises to streamline the "last mile" of customer communications by automating the generation of notices, invoices, receipts, and other customer communications, as well as internal communications, such as reports, forms, and other documents. EDP solutions provide the following key capabilities:

- ☒ **Unified platform for all information publishing needs.** EDP solutions integrate data and content from multiple back-/front-office systems and/or content management systems without change to existing enterprise applications/repositories, and publish information in multiple formats to multiple channels — whether print or the Web, mobile, SMS, PDF, etc. EDP solutions leverage and extend existing customer investments in enterprise applications, content repositories, and delivery systems, essentially serving as a layer in the enterprise information management infrastructure that decouples information presentation from underlying input and delivery systems.
- ☒ **Scalable, reliable, high-performance architecture.** EDP solutions by definition imply very high volume output and must meet the most demanding performance, scalability, and reliability requirements. Because they are responsible for generating business-critical documents, EDP solutions must be able to

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interoperate with enterprise messaging protocols/products to ensure guaranteed delivery and be capable of confirming delivery.

- ☒ **Secure, auditable publishing.** In today's regulatory environment, business documents must be reliably captured and stored. The ability to simultaneously publish a copy of every business document in the required format for the enterprise's records management systems ensures that critical records are always available, regardless where they are printed or delivered. EDP solutions can automatically generate copies of business documents in TIFF or other formats for records management and archival.
- ☒ **Flexible formatting and customization tools.** A key characteristic of EDP solutions is the ability to define outputs via templates and rules. This endows EDP solutions with the ability to generate a very wide variety of business documents that are mass customized/personalized in an endless variety of formats. EDP solutions are designed to address the needs of enterprises that must cope with multichannel publishing, giving them full control over brand identity and making it easy to tune correspondence and business communications for specific offers, situations, or customer segments (i.e., dynamically tailoring communications according to context).
- ☒ **Two-way business communications.** EDP solutions are more sophisticated than production-oriented output management solutions because they enable bi-directional communication between enterprise applications and an end user or customer. EDP solutions can create documents with which the customer can interact to transact or receive support.

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STREAMSERVE'S SOLUTION

StreamServe Inc. (www.streamserve.com), a privately held company that was incorporated in 1997 in Sweden and is now headquartered in Burlington, Massachusetts, is a leading provider of enterprise document presentment solutions. StreamServe addresses the specific needs of organizations in verticals that have a large volume of customer, supplier, and partner correspondence, such as financial services and insurance, utilities, manufacturing, retail and distribution, and telecommunications.

StreamServe has 15 offices worldwide, serving more than 4,400 customers, and has partnerships with SAP, IBM, SSA Global, and Intenia.

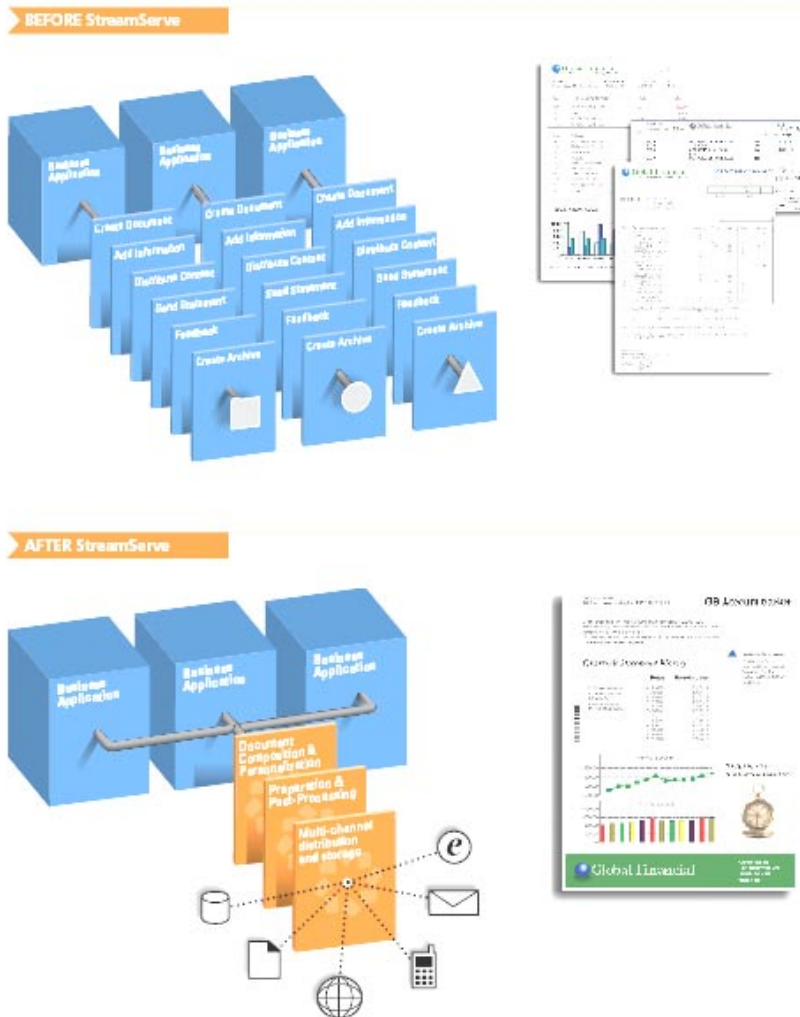
StreamServe EDP

StreamServe Enterprise Document Presentment (EDP) is a complete solution for enterprise document presentment and automates the end-to-end workflow of document packaging and presentment, from documentation layout and assembly through distribution and archival (see Figure 2). The heart of StreamServe's solution is its ability to format documents produced by back-end systems. It can accept many kinds of structured and unstructured data feeds and has specific connectivity to more than 20 types of back-end applications. Users can specify the formatting for

information pulled from these sources using StreamServe's graphical layout tool with proprietary scripting language that allows users to dynamically format any part of the document based on values from back-end systems and to incorporate content and graphics in a variety of formats.

FIGURE 2

StreamServe EDP — Unified Workflow



Source: StreamServe Inc., 2006

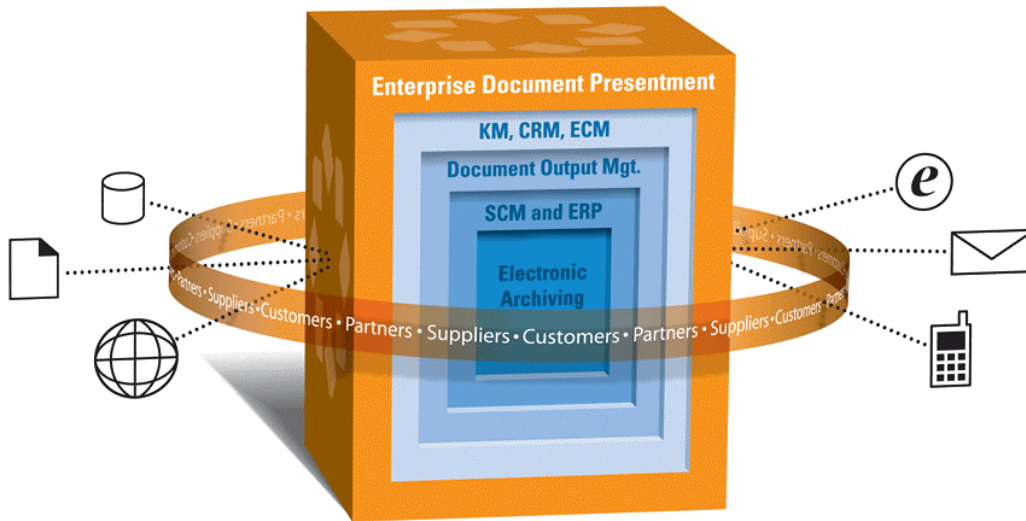
In addition to its core document packaging capabilities, StreamServe offers a full suite of complementary interaction capabilities. StreamServe can format and deliver documents to multiple channels — from print to Web, mobile, PDF, SMS, etc. (see Figure 3). End-to-end tracking makes it possible to design workflows that utilize alternative delivery channels, when a problem is encountered, to ensure timely

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communications. StreamServe EDP makes it possible to retain precise records of all interactions for regulatory compliance. A Web-based feedback system enables recipients to reply to correspondence so they can participate in automated business processes. All these additional capabilities leverage the core value of being able to deliver high volumes of appealing, accurate correspondence.

FIGURE 3

StreamServe EDP – Multi-Channel Communications



Source: StreamServe Inc., 2006

StreamServe product components include:

- ☒ **Communication Server** is a service-based, multithreaded, distributed system designed for performance and ease of interoperability with enterprise systems. Communication Server has advanced facilities that enable the enterprise to prioritize workloads and to ensure guaranteed delivery of documents in case of system failures, including load balancing, queuing, and dynamic routing capabilities.
- ☒ **Control Center** and **Profile Manager** are StreamServe's graphical administration tools.
- ☒ **Repository** provides centralized management of all information required by the Communication Server, permits distributed operations across the enterprise, and provides recovery, security, and administration capabilities for design-time and run-time activities.
- ☒ **Input Connectors** allow StreamServe to accept input data directly from SAP, Oracle, and many other enterprise applications, as well as in a variety of structured, semistructured, and graphical formats. A key strength of StreamServe

A key strength of StreamServe is the ability to intelligently recognize input data, interpret it, and trigger actions according to the data in the content.

is the ability to intelligently recognize input data, interpret it, and trigger actions according to the data in the content; for example, the name of the document, address details, etc.

- ☒ **Output Connectors** enable StreamServe to dynamically publish in any format, to any device, and to any distribution channel — from print to email, fax, mobile devices, the Web, message queuing systems, such as IBM WebSphere or Microsoft Message Queuing, and network protocols.

Benefits of StreamServe's Approach to Document Presentment

StreamServe EDP provides a unified enterprise document presentment solution that meets all of the needs of the enterprise for high-volume business communications and requires no change to existing systems. Organizations that have multiple back-end applications can leverage StreamServe to consolidate communications from these disparate systems. StreamServe provides a central point of control over the diverse document packaging and presentment needs of the enterprise, significantly enhancing its agility through its ability to define and generate new document types and new formats, and automate the "last mile" of customer communication via any delivery channel desired.

CONCLUSION

Business information systems have typically focused on capturing data, storing it, and making it available for reporting and analysis. Often, the way that data is presented — to customers, employees, and partners — is an afterthought. Turning business correspondence into an effective marketing tool for cross-selling, up-selling, and brand building makes sense: this is a classic "untapped opportunity," and one that represents the potential for a significant competitive advantage and a compelling ROI.

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Formatting and personalizing the output from business systems is a difficult problem when it must be done on a massive scale. The national and global companies that need to regain the personal touch in order to compete for and retain customers typically have millions of customers to reach. Problems of scale are further compounded by the need to support multiple back-end systems, multiple languages, and multiple output formats, including the Web, print, mobile, and PDF. Furthermore, most companies can't afford to replace their core software stack in order to improve output. Data and content integration from multiple source systems thus needs to be a key capability of any solution for high-volume document personalization and presentment.

For these reasons, IDC believes that enterprise document presentment will take hold rapidly. The dynamic enterprise publishing market (of which enterprise document presentment is a part) is growing at nearly 27%, and is forecast to attain software revenue of over \$1 billion by 2009 (*Worldwide Dynamic Enterprise Publishing Software 2005–2009 Forecast and Analysis: A New Generation of Enterprise Publishing Software is Born — Initial Market Sizing and Vendor Shares*, IDC #32979, March 2005). Moreover, as has been the case with so many other business

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technology advances, IDC believes that customers will come to expect higher quality and more personalized documents, and will spurn less attractive, obviously mass-produced output.

By dynamically publishing information from enterprise systems, enterprise document presentment systems produce customized documents that can incorporate more timely data, eliminate extraneous content, and address the specific needs of each target audience member. This makes enterprise documents more persuasive, relevant, and valuable. Depending on the type of relationship an enterprise has with its customers and the point at which it uses customized documents, these advantages can result in improved sales conversion, decreased legal costs, improved decision making, decreased support costs, and improved customer loyalty.

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