

Adobe® LiveCycle® Enterprise Suite (ES)

Solutions Overview

Customer engagement: a competitive imperative

Organizations today face a critical need to engage meaningfully with their customers and constituents. Businesses need to strengthen their brands, differentiate themselves from competitors, and inspire stronger customer loyalty and satisfaction. Organizations in government sectors need to connect with constituents in response to reduced funds, increased citizen demands, and escalating quality expectations.

Since its founding, Adobe has redefined traditional notions of engagement on many fronts. Adobe products and technologies have made solutions available that allow employees, customers, and constituents to use dynamic, secure forms and documents to streamline business transactions. Adobe has provided the basis for development of interactive web sites that drive customer services and purchases. Products and technologies from Adobe have also paved the way for development of engaging online brand experiences as well as creation and delivery of informative, entertaining streaming videos.

The engagement gap

To date, however, there's a gap in the way organizations engage with customers and constituents online. Although organizations are trying to create meaningful, interactive relationships and streamline external-facing transactions and processes for mutual benefit, their efforts have not been as successful as anticipated. This applies across numerous industries.

Consider online customer engagement in financial services. This industry has embraced e-banking systems to reduce costs and improve customer service, but studies indicate that only a small percentage of customers are willing to complete transactions online.

The same disparity exists in government, where the United States Federal Government announced that its lines of business and eGov initiatives would reduce costs and improve services in March 2004. But from March 2006 to March 2007, twice as many United States citizens (63%) used the phone to interact with government compared to those using the Internet (31%).

Engagement also falters in manufacturing, where companies have dramatically reduced the cost of manufacturing and design by investing \$50 billion in applications over the past five years. Yet, 50% of all collaboration is still accomplished outside these systems, and 60% of process flow and security activities are managed manually.

In life sciences, clinical trials for proposed drugs take years and require extensive information tracking and documentation. Even the initial start-up process for recruiting investigators involves completing and submitting lengthy FDA forms. Each year, the FDA still processes more than 220,000 start-up forms on paper—simply automating this workflow could get more investigators approved faster and shorten trial times. As trials progress, the volumes of paper continue to mount. Whether it is clinical information sent to company researchers for review or investigators requesting additional drugs for testing, paper still drives many life sciences workflows today.

Why effective engagement is crucial

The lack of successful approaches to engagement is increasingly problematic because organizations today compete in global markets where customers, supply-chain partners, and service providers have more choices than ever. Oftentimes, brand loyalty is non-existent and goods and services are viewed as commodities judged only on price.



Engagement is also crucial because organizations have invested heavily in websites designed to help automate business processes and capture information, only to be disappointed by high abandonment rates. Customers and constituents may not want to engage online with a business or organization for a number of reasons. The user interface of a site may be too difficult to navigate and understand or a form might be too complex. Or, perhaps the customer would prefer to take the transaction offline, but that is not possible. Perhaps there is not a sufficient, streamlined connection between an external transaction and the internal process supporting it, and as a result the process breaks down. Regardless of the root cause, organizations are finding that they must engage customers as successfully online as they do in the physical world. Organizations that accomplish this and build lasting relationships achieve a competitive advantage that fuels their success.

By leveraging Adobe solutions, organizations are discovering ways to connect and interact with customers and partners and build more meaningful, productive relationships. The result is improved sales and happier, more loyal customers who are committed to an organization's products and services, as well as strengthened relationships up and down the supply chain.

What is Adobe LiveCycle Enterprise Suite?

Adobe LiveCycle Enterprise Suite (ES) is a family of servers and tools for automating external-facing business processes and closing the engagement gap. It enables organizations to automate tasks such as data capture and dissemination, process management, digital rights management, and document generation. It also changes the way organizations think about how they automate the processes that directly or indirectly touch customers, partners, and suppliers.

LiveCycle ES includes foundation technology, development tools, and solution components. The suite has been developed as a single, integrated product and the solution components are deployed on the network through a single installer. The purchase of any solution component includes the foundation and tools.

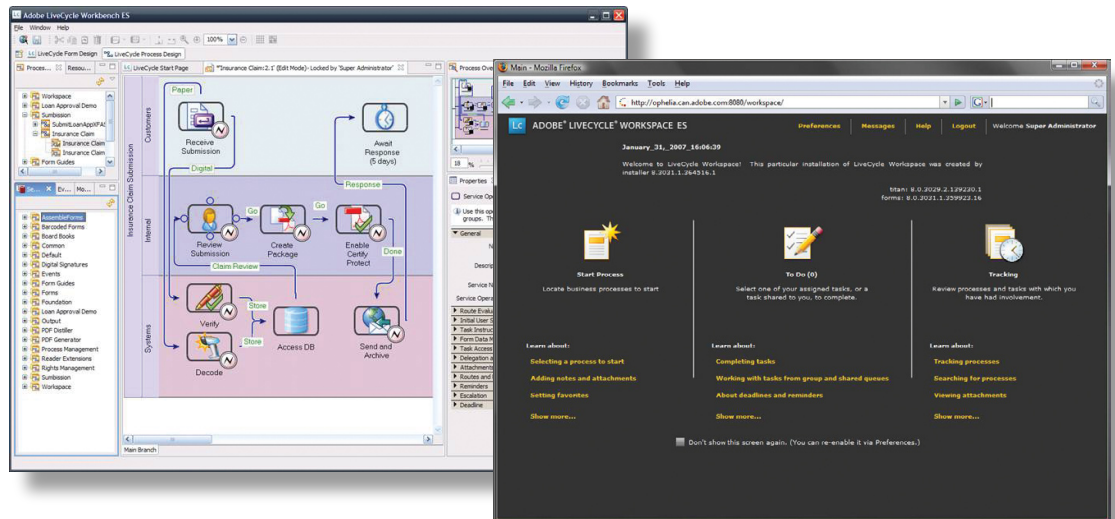
LiveCycle ES drives a new way to develop applications specifically for end users who abandon shopping carts, do not complete forms, or become frustrated with automated ways of interacting with organizations. These engagement applications are enabled through a blend of LiveCycle ES, leveraging Adobe Portable Document Format (PDF) and Flex™ technologies that put a whole new type of interface based on Adobe Flash® on outward-facing applications.

LiveCycle ES is the only solution that offers a comprehensive platform for customer engagement, blending industry-leading tools and services with best-in-class partner solutions and enterprise standards to transform business processes that extend to customers, partners, and suppliers. LiveCycle ES encompasses each of the following areas:

- **Ubiquitous, cross-platform runtimes**—including Adobe Reader®, Flash Player, and Apollo. With Adobe client software already present on over 700 million computers and 200 million other devices worldwide, no other vendor can offer a more robust and ubiquitous platform.
- **Standards-based frameworks and tools**—including Flex, XML, and PDF. With LiveCycle ES, organizations can create a user experience with a consistent definition language and data model, and deploy the UI in the format that makes the most sense for users, including Flash, PDF, or HTML.
- **Scalable solution components**—provide the necessary functionality to manage and optimize customer engagement processes, including data capture, process automation, information assurance, data output, and document generation.

LiveCycle ES powers development of dynamic user interfaces that guide customers successfully through processes yet at the same time connect with core back-end systems. A customer engagement application might present an interactive, engaging interface and at the same time ensure that information entered into form fields is valid, accurate, and complete. The result is that users can engage more easily with information and processes.

Unlike typical Business Process Management (BPM), web technologies, or e-forms products that do not have tools to optimize user interaction and data capture, LiveCycle ES delivers effective end-user experiences to increase conversion, completion, and usage rates, and boost transaction sizes and user satisfaction. The captured information can be routed for approval and processing or kick off other business processes. Or, it might trigger dynamic output that delivers final documents to customers and to a records management archive.



Adobe LiveCycle ES offers a powerful, integrated way to build customer engagement applications.

Why LiveCycle ES?

With its ubiquitous Adobe Flash and Adobe Reader software—and future releases of Apollo—Adobe enables organizations to engage customers and partners online or offline via desktop or laptop computers, mobile phones, handheld computers, and other devices. LiveCycle ES is much more than document services. It is a best-in-class environment for developing and delivering externally facing engagement applications.

By blending Adobe PDF and Flash technologies, and leveraging the reach of the ubiquitous, cross-platform Adobe clients, LiveCycle ES helps organizations revolutionize the user experience for externally-facing applications, which helps them address the challenges of getting users fully engaged within business processes. In short, LiveCycle ES helps organizations create a new class of applications that Adobe calls “customer engagement applications,” that connect people outside the organization to internal applications, helps manage information faster and more accurately, improves the quality of services, and decreases costly cycle times.

Unlike previous generations, LiveCycle ES provides a single, unified environment in which organizations can design, implement, and automate the documents and processes within an organization and with external customers and stakeholders. No longer a set of individual products, LiveCycle ES is now a unified and integrated system. There are also significant new enhancements, including a central repository for sharing assets, a new integrated development environment, a user portal for participating in LiveCycle processes, and enhanced output capabilities.

How LiveCycle ES benefits specific industries

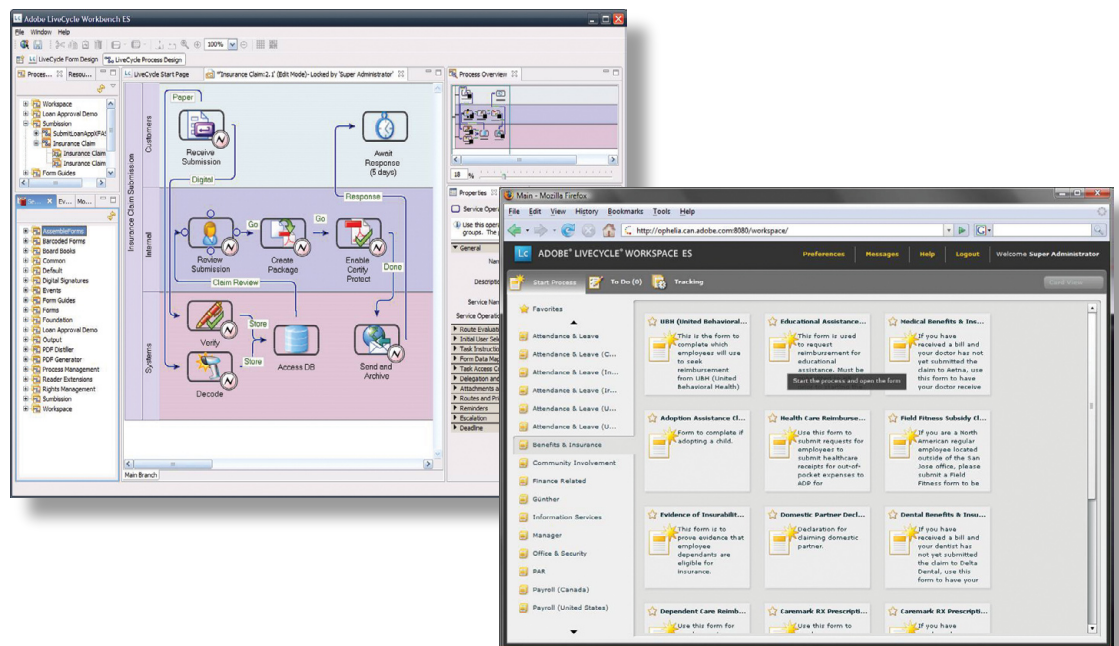
Financial services

LiveCycle ES is particularly beneficial for financial services providers. Today, large global financial services providers compete with each other and with much smaller regional companies to earn the trust and win the business of customers who are less loyal and have more choices than ever. The commoditization of financial services has been a boon to customers, who now have more convenient services and tailored programs to choose from. For financial services providers, however, the battle to acquire new customers and encourage existing customers to add services has never been fiercer.

With solutions based on LiveCycle ES, banks and investment firms can engage customers through high-quality experiences delivered across a variety of channels and popular computing devices. At the same time, Adobe LiveCycle ES enables companies to offer more customers a wider array of services on-demand, while streamlining processes and minimizing costs.

Engagement applications built on LiveCycle ES in financial services garner proven results. Whether it is banks, investment firms, or insurance companies, Adobe solutions help boost an organization's profits and streamline engagement with customers and partners.

Imagine a young couple searching for programs to meet their short- and long-term financial goals. Ideally, they could look at possible outcomes for different investment programs. Unfortunately, they find only general information about investments as they move from web site to web site. Eventually, they find a company providing a dynamic web site offering rich eLearning content and interactive graphics mapped to portfolio performance and risk. They spend time exploring the site and then, via an engaging, interactive interface based on Flash, they fill in the forms required to open an account with the company. The user interface of the site is easy to navigate and the form is simple and interactive. The couple can take the transaction offline if they wish and bring it back online for completion. With LiveCycle ES, information contained in the forms is automatically entered into the company's back-end systems, and a packet of printed information is generated on the fly and sent to the couple. Meanwhile, the necessary information is sent to the company's archive for records management.



Financial services firms are using Adobe LiveCycle ES to build solutions that help them more effectively interact with customers.

Insurance brokers setting up policies for customers can benefit from engagement applications built on LiveCycle ES as well, enjoying immediate answers to questions about coverage amounts, deductibles, limitations, and other important issues. While completing the digital application, a broker can click on a link and instantly initiate a web conference with one of the company's underwriters. The online conference includes quality audio, text exchanges, as well as a real-time video of the customer service agent.

Government

Improving the quality and availability of services is a top priority for city, state, and federal agencies. At the same time, government agencies struggle to stay within budgets and accommodate all citizens, regardless of their abilities or locations. Because of this, agency approaches to engagement have to be based on fully accessible, easily understandable, and universally available solutions. Government agencies are finding that Adobe LiveCycle ES is a powerful, effective way to engage citizens and collaborate within and among agencies with ease.

One large, United States county wanted to accelerate the process of submitting and processing orders of protection (OP) to ensure that victims of violence could be protected as soon as possible. To accomplish this, the county used LiveCycle ES to replace its long and confusing paper forms (filled with legalese) with an intuitive online process that enables victims or their advocates to quickly complete and submit an OP. The accurate digital forms are automatically routed to all appropriate agencies for processing. The county has accelerated issuing OPs and seen the number of abandoned filings decrease because the simplified workflows enable more people to successfully complete applications. For many citizens, the newly automated processes can literally save lives.

In another use of Adobe LiveCycle ES, defense agencies are gaining access to real-time data visualizations and interactive collaboration tools to drive better decision-making in the field by enabling soldiers to analyze several scenarios at once. At the same time, low-bandwidth, online conferencing solutions enable dispersed soldiers to instantly collaborate to fix system problems or report on progress. Here, effective engagement means the difference between winning or losing battles and minimizing troop losses.

The scope of LiveCycle ES engagement applications in government is extensive, impacting how constituents interact with agencies and how agencies collaborate with each other. Yet even with so many possibilities, common themes emerge: improve the quality and breadth of services; accelerate time to deliver services; safeguard confidential information; eliminate inefficiencies; provide understandable and accessible services to intended audiences; and deliver on the long-standing goal to serve and protect all citizens.

Manufacturing

Manufacturing staff and their partners typically resort to paper processes when documents—designs, budgets, parts specifications, and other essential information—have to be shared across groups. The simple fact is that not all project team members have the specialized design and engineering software needed to open and view materials. As a result, tremendous time and resources are devoted to printing, delivering, and managing materials worldwide.

The problems with this approach are obvious. High administrative costs and delays are common, especially given the collaborative nature of manufacturing. At the same time, manufacturers struggle to safeguard intellectual property and prevent errors that result if dispersed teams misinterpret information or use incorrect versions of designs to build parts or manufacture products.

By leveraging Adobe LiveCycle ES and the ubiquitous Adobe Reader and Adobe Flash software, manufacturers can bridge the gaps among employees, partners, customers and the variety of applications they use. The solutions built on LiveCycle ES also provide an effective avenue for dealing with ad hoc collaboration processes, and processes that extend outside the firewall—as opposed to the highly structured workflows found in ERP and PLM systems—common in manufacturing today. Here are a few scenarios:

A United States manufacturer does some product design in-house and works with additional engineers in Europe and the Middle East to design specific components. This demands that collaborating designers have quick, reliable access to everyone's work—something ill-suited to paper. In addition, finalized product designs are sent to a manufacturing plant in Asia for production. As confidential project materials move around the world, the manufacturer can use solutions based on LiveCycle ES to help ensure that sensitive information is protected and that intentional or accidental changes cannot be made to designs approved for production.

For manufacturers, managing dozens of versions of project documents outside of enterprise or PLM systems is daunting. For example, a particular component might go through ten rounds of changes before it is approved for production. The challenge, of course, is ensuring that the manufacturing team uses only the current design and specifications in production. To help ensure this, Adobe solutions could ensure that access to all previous versions of documents is blocked.

A large part of revenues for many manufacturers comes from maintenance and support services, with leading companies attributing as much as 50% to 80% of revenues to services. With customers worldwide, manufacturers now rely on a global network of regional service providers to address customer needs. In these instances, proper

engagement is vital, as manufacturers work with providers and customers to complete contracts, collaborate on problems, and deliver timely, professional support.

Equally challenging for manufacturers is addressing compliance requirements, typically a document-intensive process. With so many manufacturers, suppliers, and other outside partners working together to bring products to market, companies need to closely track the products and services provided by each partner. Solutions based on LiveCycle ES can give manufacturers detailed documentation that is essential if government regulators or other entities question a company's manufacturing processes or the makeup of components used in final products.

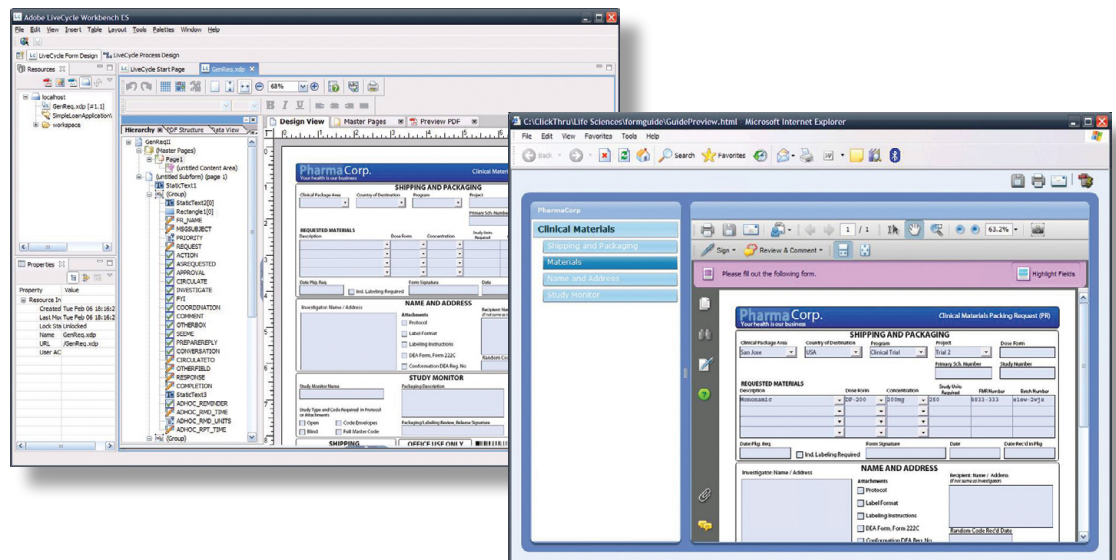
Customers have more options than ever when purchasing items today. Typically, more engaging and interactive buying experiences result in higher sales and happier customers—and play an important role in helping companies differentiate their brands from competitors. For example, automobile manufacturers are using LiveCycle ES to incorporate dynamic tools on their web sites that enable buyers to visually customize the cars of their dreams and then connect directly with local dealers to schedule test drives of the models.

Life sciences

In life sciences, key areas of concern are cost containment and risk mitigation, not to mention faster time-to-market for new treatments that save lives. At the same time, a pharmaceutical or biotechnology company can boost revenues by more than one million dollars a day after releasing a successful treatment. For companies that have invested heavily in multi-year research and development projects, accelerating product releases is essential to recouping R&D investments before product patents expire.

Once products are approved and released, engagement efforts shift from drug development to connecting with global networks of sales representatives and healthcare providers to educate them on the latest new product details. Of course, an adverse drug reaction affecting the public reinitiates communication between a company and government regulators, since extensive documentation is required to evaluate, monitor, and mitigate the impacts on public health.

One leading life sciences company is using LiveCycle ES to build solutions that enable them to generate, track, and store data, forms, and documentation related to R&D and testing, and also capture who made which decisions and why. LiveCycle ES helps the company automate and integrate its document processes with enterprise systems and enhance collaboration among global project teams. At the same time, the company is able to improve every aspect of its regulatory processes, including reducing costs and mitigating risks.



Life sciences companies can use Adobe LiveCycle ES to build solutions that help streamline clinical trials.

Solution Components for Adobe LiveCycle Enterprise Suite

Business Transformation Edition:

- LiveCycle Forms ES
- LiveCycle Data Services ES (formerly Flex Data Services)
- LiveCycle Barcoded Forms ES
- LiveCycle Reader Extensions ES
- LiveCycle Process Management ES (formerly LiveCycle Workflow)
- LiveCycle Rights Management ES (formerly LiveCycle Policy Server)
- LiveCycle Digital Signatures ES (formerly LiveCycle Security Server)
- LiveCycle Output ES (formerly LiveCycle Print)

Data Capture Edition:

- LiveCycle Forms ES
- LiveCycle Data Services ES (formerly Flex Data Services)
- LiveCycle Barcoded Forms ES
- LiveCycle Reader Extensions ES
- LiveCycle Process Management ES (formerly LiveCycle Workflow)

Individual add-ons:

- LiveCycle PDF Generator ES
- LiveCycle Production Print ES
- LiveCycle ECM Connectors

For more information, please visit www.adobe.com/products/livecycle.

The United States government is also using LiveCycle ES and other Adobe technologies to help life sciences companies. Recognizing the importance of improving collaboration and reducing reliance on slow, paper-based workflows, the United States government developed a “federal government form registry” to move as many processes as possible from paper to electronic forms. The financial benefits to life sciences companies are tremendous, with government officials estimating that the average large pharmaceutical company could save \$491 million annually and smaller companies could save upwards of \$160 million each year. In addition to these efforts, governments in the United States, Europe, and Japan already encourage companies to submit new drug application (NDA) materials electronically as PDF files.

Industry adoption of the electronic processes based on LiveCycle ES technologies has skyrocketed. For instance, the United States FDA’s electronic gateway officially went live in early 2006 and over a five month period more than 31,000 forms submissions for adverse events were received electronically. While the FDA will not release specific savings figures, the more automated processes are enabling them to handle forms faster and more cost-efficiently.

Company interactions with government regulators go beyond seeking approval on new drugs. Any piece of marketing or sales collateral that mentions a drug has to be reviewed and authorized by the appropriate regulatory agency. Traditionally, this process was handled manually, with company staff and government officials exchanging pictures and written details about collateral. Ideally, this process could be handled electronically using solutions based on LiveCycle ES, from the initial submission of materials to final signoff and approval.

Safeguarding the integrity of research materials and other sensitive information is a priority for bio-pharmaceutical companies. Central to these efforts are the Signatures and Authentication for Everyone (SAFE) digital signature standards that bring more control to reviewing and collaborating on drug R&D information. With LiveCycle ES, organizations adopting SAFE standards can streamline the movement of authenticated information across lines of business, between headquarters and clinical investigators, and among companies and government regulators.

Making engagement a reality

For numerous industries, Adobe solutions based on LiveCycle ES are vital to enabling organizations to better engage customers, suppliers, business partners, and others. From driving interactive business workflows to supporting the creation and delivery of dynamic, rich information and entertainment, Adobe LiveCycle ES transforms how people worldwide engage with and benefit from an organization’s products and services.