

Ultimus®

Workflow for the Information Age

10 Myths About Workflow Automation

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Introduction

Workflow automation is a new and rapidly emerging software category that can dramatically improve the productivity of organizations. Like other new technologies, it will take some time before workflow automation moves from the circle of “early adopters” to broader use as a mainstream application. Naturally, during this period of transition there are misconceptions and confusion among users, the trade media, and analysts. Such misconceptions about workflow automation are fueled by the rapid change in technology, the absence of generally accepted terminology, the extreme diversity of applications that workflow automation can tackle, and the variety of solutions proposed. In turn, these misconceptions impede the more rapid adoption of workflow automation because they breed uncertainty and confusion.

In this white paper, we discuss and refute the 10 most popular misconceptions about workflow automation. These are:

1. Workflow Automation is passé.
2. Workflow Automation = Re-engineering.
3. There are hundreds of Workflow Application Vendors.
4. Workflow will become a part of the Operating System.
5. Workflow Automation is Difficult.
6. Lotus Notes/Microsoft Exchange are Workflow Solutions.
7. One Workflow Solution can be found for all workflow needs.
8. Electronic Forms software is a Workflow Solution.
9. Workflow Automation is only for Complex Business Processes.
10. Workflow Automation is Expensive.

Myth #1: Workflow Automation is passé

The concept of workflow automation has been around for a long time and its roots can be traced back to the early 1980s. During this time it has been often touted as a software category that will change the way people work. However, over the years, workflow automation has not managed to breakout from a concept to a widely used software category with a prominent position at the forefront of the IT landscape. There are many reasons for this:

- i. Early deployments of workflow automation were very expensive, centralized, mainframe-based solutions that were hard-coded for high volume applications. All of these were backoffice applications. Only in the early 1990s did workflow automation solutions for desktops begin to emerge.
- ii. For workflow automation to be successful, the presence of a robust network is essential. Before the advent of the Internet in the mid-1990s, there was no standard network or protocol that was universally accepted.
- iii. Workflow automation is basically a client/server application that requires the widespread distribution of a “workflow client” to a large number of desktops. Deploying client software on many desktops was difficult and expensive, especially when vendors had to deal with different desktop platforms. The emergence of Microsoft Windows as the dominant platform in the mid-1990s, solved part of the puzzle. However, there was still no convenient and easy way to distribute and upgrade the client software to the desktop. The emergence of the Web browser was the first breakthrough that made it easy to provide workflow clients to a large number of users.

- iv. Workflow automation has been a difficult solution to deploy successfully. If 1000 copies of a word processor are installed and 10 of them do not work, the deployment is considered very successful because 99% worked. However, if 1000 workflow clients are deployed and 10 do not work, it is a miserable failure because workflow will come to a standstill! Workflow automation applications have been fraught with challenges and have long success thresholds.
- v. Improperly implemented workflow automation is a cultural change. It takes longer to adopt. It is sometimes incorrectly equated with re-engineering (see Myth #2 below) that involves change, politics and fear. Requiring people to change the way they work is not something that can be done easily.
- vi. Every company has many business processes that could benefit from workflow automation. However, very few companies have processes that are documented. Before one can automate a business process, one must be able to document it. This is time consuming and the discovery process itself often opens up a can of worms.

The adoption of workflow automation has been slow because of these reasons. So slow that many industry analysts have labeled it a passé technology. It suffers from the “cry wolf” syndrome, and never seems to deliver on its promise. Other technologies, such as sales force automation, ERP, and CRM have emerged and taken over the minds and the budgets of IT buyers. Analysts have predicted the demise of standalone workflow automation products, and have concluded that workflow will exist only as a part of other applications.

All these predictions are wrong. To the contrary, the age of workflow automation has yet to come. Workflow automation is destined to become a mainstream application that will sit on top of, and inside, other enterprise applications. There are many reasons for this:

- i. The Internet has emerged as a global network that is an excellent platform for building workflow applications connecting people and enterprise applications in structured business processes
- ii. The Browser has become ubiquitous, and provides a robust client for workflow automation. There is no longer the need to deploy specialized ‘workflow clients’ on a large number of desktops.
- iii. Technology has improved dramatically to make possible on desktops what was once only possible in mainframes. Enterprise databases, HTML/DHTML, messaging, object management and remote object invocation (DCOM/CORBA), transaction processing and other similar technologies, have improved dramatically to facilitate the deployment of sophisticated solutions at affordable prices.
- iv. XML has fast emerged as the de facto lingua franca of business applications. Moving information from applications to application no longer depends on complex system integration and the development of a large number of connectors.
- v. The “lag time effect” has come to the forefront and demands attention through workflow automation. Companies realize that efficient business processes are necessary for survival and competitive advantage. The lag, or dead time (the time during which tasks are in-process, waiting in queues or in-boxes) accounts for 90% of the total time consumed by typical business processes. Only 10% of the time is accounted for by people actually performing tasks. If companies invest heavily in personal productivity software and manage to improve individual productivity by 50%, the overall process time is reduced only by 5%. However, if, through solutions such as workflow automation, they can improve the lag time by 50%, the overall process time is reduced by 45%. Operating in Internet-time demands embracing workflow automation and dramatically reducing the lag time.

Workflow automation is destined for every desktop in the world, and it will succeed as a stand-alone, general-purpose product. This is because automating the flow of work has to deal with the complexity of human interactions. Human beings interact in very complex and often unpredictable ways. Exceptions, exceptions to exceptions, and special conditions are rampant in every organization.

The solution to handle all these is not something that can be built or managed in every enterprise application, such as financial, customer support, document management, sales force automation, etc. The cost of doing this is far too high. Instead, centralized, highly flexible, general-purpose workflow automation solutions are deployed that provide core workflow functionality to integrate people and enterprise applications inside and outside the organization.

Myth #2: Workflow Automation = Re-engineering

Another common myth is that workflow automation and business process re-engineering are one and the same. This myth is accentuated by the fact that almost every press article, conference, or seminar dealing with workflow automation includes a discussion about business process re-engineering. People talk about them in the same breath. Analysts include business process re-engineering in discussions about workflow automation because it gives people something more controversial to talk about rather than just plain solutions. The media includes business process re-engineering in news stories about workflow automation because vendors like to show off examples of their product that have changed the way a customer does business. In addition, there are many more books and articles about re-engineering than about workflow automation.

Re-engineering and workflow automation are not necessarily one and the same. It is important for users to understand this distinction.

Workflow automation is purely a software solution category that provides a means of automating a business process.

Re-engineering is the act of analyzing the business processes of a company and changing them with the goal of improving them in some way. Re-engineering involves a combination of science, art, diplomatic skills, and business acumen.

Organizations can automate business processes using workflow automation software without re-engineering. Likewise, they can re-engineer without any workflow automation. Companies can also re-engineer, and as a part of the re-engineering effort, install a workflow automation solution. Workflow automation can benefit a re-engineering effort and vice versa. But there is no reason that they must be coupled and equated.

This myth is one of the factors behind the slow acceptance of workflow automation. Workflow automation is a solution to improve business productivity. However, business process re-engineering involves changing the way organizations do business. This fosters fear, uncertainty, politics, and resistance to change. Adoption is slow and requires buy-in from many individuals. When re-engineering is explicitly or implicitly equated with workflow automation, the fear, uncertainty, and resistance to change carries over, thereby slowing its adoption.

To avoid this trap, we recommend that companies not equate their workflow automation initiatives with re-engineering initiatives if they want to demonstrate quick successes. Once workflow automation has demonstrated success, it will be much easier to re-engineer since the organization is aware of the benefits.

Myth #3: There are hundreds of Workflow Application Vendors

Delphi Consulting Group and the Patricia Seybold Group, two leading consulting organizations that follow the workflow industry, publish lists of over a 100 workflow vendors. Other industry analysts also cite a long list of products with workflow capabilities. There are many products in the market that advertise workflow features in their marketing literature because the subject and technology is “hot.”

There is a catch to this. “Workflow” is not the same as “workflow automation.” Any application that can route a document using E-mail or some other means can claim to support “workflow,” because

the application is indeed making work “flow” from one individual to another. However, routing a document is a far cry from workflow automation. Consider the following analogy. There are many text editors, and text-editing capabilities can be found in many applications. We do not call any of these applications a word processor. Would you use just any text editor to write the next letter to your customer? The answer is probably no, unless you are really desperate. And the reason is that a word processor is designed for producing quality documents easily and productively, and offers a plethora of features to make this possible.

Likewise, one must differentiate between “workflow-enabled” and workflow automation software. True workflow automation software must provide a number of features and capabilities for automating business processes that go far beyond simple routing of documents. Some of the essential features of workflow automation are listed below.

Essential Features of Workflow Automation

- Graphical Workflow Maps
- Simulation for testing Workflow Applications
- Role-Based Routing
- Ability to call other Workflow Processes
- Relationship-Based Routing
- Workflow Metrics and Monitoring
- Conditional Routing
- Workflow Statistics
- Automation Agents for using third-party Applications in Workflow
- Automatic Workflow Installation and Maintenance
- Seamless Interface with Databases
- Task Queues
- Exceptions Handling

See the Ultimus white paper, *200 Essential Features of Workflow Automation* for a comprehensive list of essential features.

When these criteria are applied, the number of true “workflow applications” is reduced to a handful. You may ask, why should one apply such a rigorous criteria? The answer is simple: business processes tend to get complicated fast. Even processes that look simple on the surface tend to get complicated when you look at all the nuances and exceptions in any organization. To handle the complexities of even the simplest business processes, you will need all these capabilities, sooner rather than later.

Myth #4: Workflow will become a part of the Operating System

Another popular myth is that workflow will become a part of the operating system. This myth is sustained by the predictions of industry analysts. Our contention is that workflow automation will never become a part of the operating system in the foreseeable future. There are several reasons that this is not likely:

1. Spreadsheets, word processes, and databases have been around for 20+ years and have become household words. These technologies are widely understood and used, and there are de facto standards and terminology associated with these technologies. Yet even today none of these technologies are a part of the operating system, for many reasons. One of the most important is

that users want diversity and freedom of choice. Workflow automation software is much newer, more diverse, less understood, and is evolving more than any of these technologies. Workflow automation users demand even more choice because of the diversity and complexity of business processes.

2. Accounting software packages have been around almost since the advent of computers. This is another area where there are commonly accepted practices, terminology and rules. Yet there is not one operating system that touts integrated functions for accounting. Workflow automation software is far more complex and diverse than accounting software.
3. Operating system vendors, such as Microsoft or Sun, will not be able to charge a lot more for their operating systems by including workflow automation capabilities. So what incentive do they have to incur the enormous development and support cost of workflow automation software?
4. Operating systems are designed and optimized to handle standard situations. Even then, the development cost of today's operating systems is in the range of hundreds of millions of dollars. Business processes are complex and littered with exceptions. Embedding workflow automation will greatly increase the cost and complexity of development. Thus, even if operating system vendors decide to market workflow software, which some of them already do, it makes much more business sense to do so outside the operating system instead of as a part of it.

While we strongly believe that workflow automation will not become a part of the operating system in the foreseeable future, we are convinced that state-of-the-art workflow solutions will heavily use built-in OS services. Indeed, every good workflow solution today is integrated with messaging, web server, object management, file management, and other services provided by the operating system.

Myth #5: Workflow Automation is Difficult

Another popular myth about workflow automation is that it is difficult; therefore, it causes people to shy away from adopting the technology. The myth results from the following factors:

1. Almost all attempts to apply workflow automation have focused on complex, mission critical applications. Press articles and seminar discussions focus on complex applications of workflow where the level of difficulty is high.
2. Most IT managers, who are generally at the center of workflow implementation, would rather solve complex problems first. They are not measured or rewarded for solving simple problems.
3. Most vendors evolved their workflow applications from UNIX or mainframe platforms that were fairly complex and large scale. It has only been in the past couple of years that workflow automation software has moved down to personal computer platforms and the focus is increasingly on ease-of-use.

Workflow automation by itself is not difficult. However, if you select a business process that is difficult, it follows that the resulting workflow implementation will also be difficult. Like any other technology, it is the problem you are trying to solve that dictates the level of difficulty. Workflow automation software packages like Ultimus can be used relatively easily to implement sophisticated workflow solutions. The level of difficulty involved in deploying an Ultimus workflow solution is no greater than any enterprise application. The greatest challenge comes in understanding the processes to be automated; however, the greatest reward comes from this as well.

Myth #6: Lotus Notes/ Microsoft Exchange are Workflow Solutions

Lotus Notes is the original groupware product. It is an excellent shared unstructured database, with sophisticated replication and application development capabilities. The Lotus/IBM marketing machine has also done an excellent job of positioning Notes as a solution for a variety of business needs for sharing documents in an organization. This has also created the widespread myth that Lotus

Notes is a workflow solution. This perception is compounded by the fact that, in the absence of other compelling workflow solutions in the past, many companies have used the application development capabilities of Lotus Notes to develop workflow applications.

However Lotus Notes is not a workflow automation solution:

1. Search the Index and Table of Contents of Lotus Notes manuals. You will not find a single reference to workflow automation, or to groups, roles, queues or many of the other common concepts of modern workflow automation software.
2. Yes, one can use the sophisticated application development capabilities of Lotus Notes and develop workflow solutions. But this requires a significant investment in programming macros and scripts to produce a single workflow application. The cost of this development far exceeds the cost of using robust workflow automation software that provides much more flexibility.
3. Lotus Notes does not support any of the essential features of workflow automation listed in Myth #3.

Microsoft Exchange is Microsoft's foray in to the groupware market. This product is foremost a robust and enterprise-wide E-mail platform that uses the latest client/server technology. Microsoft has added the following three capabilities in Microsoft Exchange that provide groupware capabilities:

- The ability to create public and private folders.
- The ability to design electronic forms that can be used with Visual Basic applications.
- A simple state transition engine called "Workflow for Exchange" that can be used with scripting to create rudimentary routing applications.

While these and other features of Microsoft Exchange are important, they do not make it a workflow automation solution. Microsoft Exchange does not support any of the essential features of workflow automation listed in Myth #3.

Like Lotus Notes, one can use the many features of Microsoft Exchange, and especially its support of Visual Basic application development, to develop workflow applications. But this requires significant programming and in the end, one would be re-creating the same features that are already available in off-the-shelf workflow applications, such as Ultimus.

Like Lotus Notes, Microsoft Exchange provides the infrastructure and facilities for sophisticated workflow automation solutions. It is not, by itself, a workflow automation solution.

Myth #7: One Workflow Solution for all workflow needs

Many large IT customers looking for a workflow automation solution believe that the best approach is to find one, robust, all-encompassing product that will take care of all the workflow requirements in the organization. In pursuit of such a product, they spend enormous time and resources to develop elaborate, "do all" specifications that document all their workflow requirements. These specifications become thick RFI/RFQs that are then shopped around to workflow vendors in the hope of finding the one solution that will meet all the requirements.

At first glance these approach appears to be sensible. Identify all the requirements, and then find a product that will meet these requirements. The benefit is that the company will have to deal with one vendor, one set of training manuals, one software to install and use, one place to go for support, and one contract and negotiations. It also means that all users throughout the company will interface with the same software.

However, this approach is flawed. Every company has a variety of workflow automation requirements. Different workflow systems are optimized for different types of applications. In a separate white paper called *Groupware, Workflow and the Role of Ultimus*, we discuss the different type of workflow products. No single product can meet all the different workflow requirements of the entire

company, just like no single means of transportation can meet all the transportation requirements of a company.

Myth #8: Enterprise Application Integration (EAI) is Workflow

Enterprise application integration (EAI) is a category of software products designed to integrate business applications as a part of structured processes. For example, sales force automation software produces a customer order. This order has to be routed to the manufacturing/ERP system. Once the manufacturing system completes the order, it must be routed to the financial/invoicing system. An EAI system, such as the Microsoft BizTalk Server or WebMethods, provides the tools and the logic to implement such routing from application to application.

EAI is a subset of workflow automation, and falls into the category of Business Process Management tools. But they are not one and the same. EAI deals primarily with application-to-application integration processes, whereas workflow automation deals with business processes that deal with people as well as applications. In EAI the challenge is the exchange of information or data with a variety of applications that often have their own formats. In workflow automation, the main challenge is to deal with the complexities and unpredictability of human interactions.

Ultimus, a workflow solution, offers seamless integration with the Microsoft BizTalk Server 2000 that is a leading EAI solution. This combination of a workflow automation solution and EAI has resulted in a new class of solutions that can best be called Heterogeneous Business Process Management is.

Myth #9: Workflow Automation is only for Complex Business Processes

Workflow automation has the reputation that it is suitable only for complex business processes. This is a result of several factors:

1. Conventional workflow automation software packages and their deployment are very expensive. Generally, the products come with large long term consulting relationships. The purchase and cost of deploying these software packages make them cost prohibitive for the automation of simple business processes. These packages have only been deployed for complex, mission-critical, production workflow applications where automation yields a reasonable payback. Vendors and users have naturally focused on automating complex business problems.
2. For similar reasons, workflow analysts also recommend that companies automate complex business processes first. It is simply not economical in most cases to incur the cost of the software and development for simple processes. This advice flies in the face of common sense: Crawl before you walk, and walk before run!
3. Finally, there is the "IT dilemma." IT managers are measured by their ability to solve complex problems because that is the focus of top management. Naturally, IT managers gravitate towards solutions for complex problems, and their solutions are themselves complex and expensive!

All of this is changing. The rapid development of desktop applications and the increasing availability of affordable and state-of-the-art workflow solutions has made it possible for businesses to focus on the routine workflow problems. The cost of these solutions and their ease of deployment have reduced the payback time. Indeed, businesses are beginning to realize that to really benefit from workflow automation, they must learn from the experience of automating simple processes before tackling the more complex.

Myth #10: Workflow Automation is Expensive

This common misconception is also rooted in the history of workflow automation. As mentioned earlier, workflow automation software has evolved from attempts to solve complex business problems using tools and technologies that were very expensive. A new generation of tools has evolved that use the latest software technology to deliver solutions at a reasonable cost with many benefits. These new tools make workflow automation affordable in the following ways:

1. They are not expensive by themselves.
2. Traditional workflow software attempted to create the computing infrastructure for workflow automation. Modern tools, such as the Ultimus workflow software, leverage existing computing infrastructure. The latter is much more affordable than the former.
3. Modern workflow automation tools such as Ultimus use graphical application development tools extensively, instead of relying on programming, scripting, and macros. This greatly reduces the application development and maintenance time, thereby dramatically cutting the total cost of ownership during the entire product life-cycle.

In the final analysis, the real question is not the cost of a solution, but its payback. Workflow automation enhances the productivity of the two most important resources of an organization: its people and its business processes. Even if their productivity can be improved by 1% or 2%, the payback is substantial. In reality, workflow automation case studies have demonstrated productivity improvements far in excess of 1% or 2%.