

## WHITE PAPER

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# Streamlining Application Configuration for the Enterprise

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Sponsored by: InstallShield

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## IDC OPINION

The process of reconfiguring a software application prior to distribution to end users is done every day at IT departments around the world. This process ranges in complexity from sending an application "as is" to fully customizing the application for the user base. The entire effort leading to successful application distribution requires determining what features are enabled or disabled, who is to receive the application, and how they are to receive it. The process is known to those responsible for preparing, deploying, and maintaining applications, but all too often, it is an informal process lacking a well thought-out plan or documented steps. What is needed in managing this overall process is a software solution that contains facilities for software packaging, customization, conflict resolution, testing, and distribution. The goal is to provide trouble-free application deployment coupled with decreased support costs. Software products like InstallShield's AdminStudio, along with sound management practices and processes, can result in a smoother installation process and reduced costs in addressing help desk problems.

## IN THIS WHITE PAPER

This IDC White Paper discusses application configuration setup for distribution through the enterprise and examines AdminStudio through the use of four customer case studies. Since application configurations vary by which settings are enabled or disabled, which features are included, as well as the targeted end-user groups, products addressing configuration changes prior to installation should contain software customization, conflict resolution, and testing tools.

## SITUATION OVERVIEW

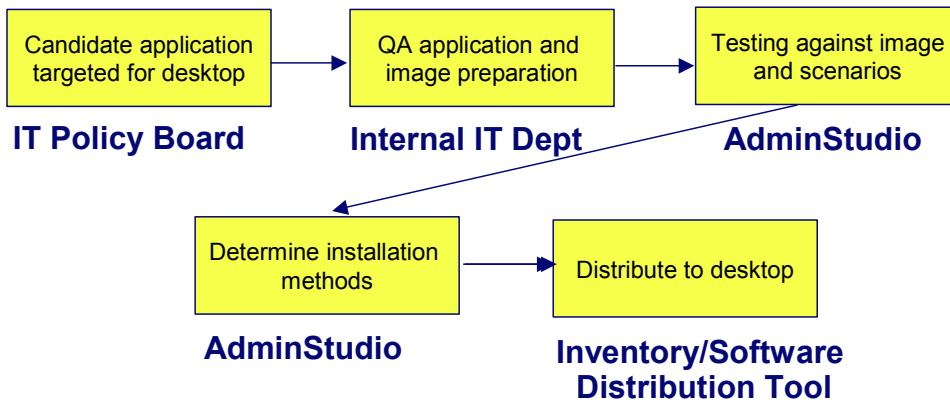
IT managers install mission-critical and nonmission-critical applications on thousands of desktops every day. These new software applications and updates should rarely be sent out "as is."

To effectively manage the process of installing new software, these IT managers need to first understand the users' requirements to help guide them in determining which settings are enabled, which user groups get which applications, and the order in which the new software will be accessed. This customization process is extremely important because it could determine the level of productivity that can be achieved by various user groups.

Generally, the process or workflow for application configuration starts with a decision on whether the application should or should not be adopted by the organization, as illustrated in Figure 1. Once the decision has been made, determining which users, or user groups, will get the new application is made; then, configuration and testing of the application against existing desktop images and in multiple scenarios is done. Potential conflicts between existing applications and desktop images and the new application are identified and corrective measures taken. The application or update is sent to the desktop only after the criteria for successful application distribution have been established.

**FIGURE 1**

Application Configuration Process



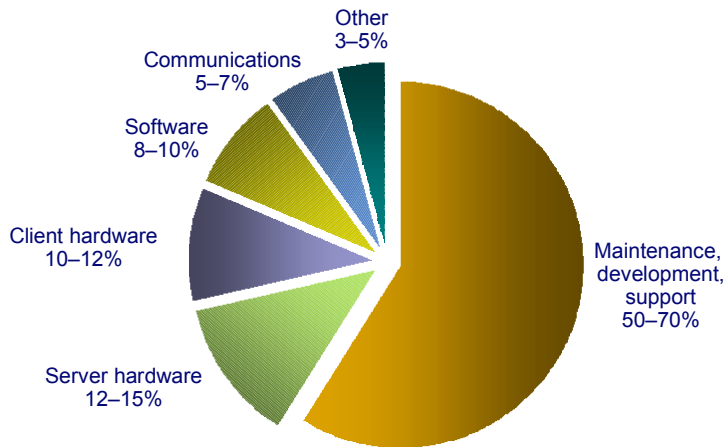
Source: IDC, 2004

Figure 2 shows an amalgam of seven different operating environment-focused studies. Please note that hardware and software, when combined, are typically under 30% of the five-year cost structure for a given application. The staff-related costs of administration, support, development, training, software installation, and maintenance often are between 50% and 70% of the five-year cost structure. This suggests that over the five years, the cost to maintain the software is approximately 5–7 times the cost of buying the software.

Both Figures 1 and 2 collectively demonstrate that the process toward maintaining applications is complex. Because it is complex, it is also where the greatest savings exist in terms of managing one part of the change management process in the enterprise (large or small) — that of application configuration prior to distribution.

**FIGURE 2**

**Cost of Ownership Factors**



Source: IDC, 2004

**AdminStudio from InstallShield**

InstallShield has been in the software repackaging business for 15 years, and the company provides the standard system for installing software on over 500 million PCs worldwide. The company continually adds capabilities to allow system administrators, independent software vendors (ISV), and corporate developers to better manage the full life cycle of each application across most operating systems.

AdminStudio provides a complete suite of automated software packaging, customization, conflict resolution and quality assurance tools that makes it easy for system administrators to prepare applications and software patches for enterprise deployment. AdminStudio lets corporations standardize the way applications are configured and deployed so that the results are always predictable. The initial cost savings from deploying the "right size" application are further extended by the reduced need and lower costs associated with ensuing calls to the help desk.

**Customer Interviews and Findings**

In March and April of 2004, IDC interviewed IT executives at four organizations ranging in size from just under 3,000 desktops to more than 73,000 desktops to determine the benefits and return of using AdminStudio.

### ***Business Issues***

The following issues were found among all the companies that were interviewed:

- ☒ Lack of a formalized installation process. The IT departments felt that they did not have a specific methodology for updating operating systems and application software. This resulted in significant installation errors that increased the need for support and the number of calls to the help desk.
- ☒ Instability in the IT department. Every one of the companies had gone through mergers or reorganizations resulting in a frequent state of flux within the IT department.
- ☒ Downtime of desktops and laptops. Application conflicts or freezes were too frequent, which compromised the productivity of users.
- ☒ Lack of a centralized operation for the packaging and distribution of software. Applications were frequently updated and deployed from different groups, which resulted in the duplication of effort and the same application being installed more than once.

### ***Answers to Business Issues***

There was no "silver bullet" or a single action taken by the IT managers to help manage application deployment. As the interviewed organizations migrated from one operating environment (frequently Windows 95) to either Windows 2000 Pro or Windows XP Pro, they also took the opportunity to examine the overall operations, including application management and control. This resulted in the following:

- ☒ Reorganizing IT staff and organizations for more deliberate, systematic process management. IT departments consolidated into one group, instead of multiple groups, that performs packaging for the entire firm.
- ☒ Using Windows Installer to create and deploy packages to client machines. This was done so that the self-repair capabilities inherent in MSI packages could be leveraged. Organizations wanted to create their own MSI packages, but also wanted to use those of software vendors that created packages.
- ☒ Repackaging applications using AdminStudio and Windows Installer to create applications for distribution to the companies' desktops.
- ☒ Creating workflow-based processes by either purchasing a workflow-based change management tool to formally oversee their management processes or by creating their own software tool.

### ***Overall Savings/Benefits***

The ability to decrease the time it took to configure and test an application for distribution to the desktop was key for customers that wanted to install software. They took a number of actions, but these actions centered on managing their internal processes for repackaging, processes that were altered due either to mergers or

acquisitions, and purchasing AdminStudio. The organizations that benefited the most were those that were able to provide metrics on how much time it took to configure and test and update their applications before and after they installed software or reorganized processes. Those organizations saw a decrease in the overall time of the installation of their applications and updates. Additional benefits included:

- ☒ Fewer help desk calls as a result of application configuration and distribution issues. In some cases, the new software application would be installed, and upon distribution, would create some problem with another application. This generated calls to the help desk from users of the "broken" application requesting intervention. As a result of the new organizations, and the purchase and use of AdminStudio, the calls resulting from new application distribution decreased as organizations were able to better test for application conflicts in the beginning.
- ☒ IT staffs were able to more closely configure and test applications targeted toward the desktop by using ConflictSolver within AdminStudio to identify potential conflicts between one application and another, or the application and the operating system. In this way, the testing process was simpler because now the software conflicts were identified, eliminating the need to test all possible combinations of applications and scenarios, and testing only the subset that would show up in ConflictSolver.
- ☒ Easier repackaging using AdminStudio over the manual processes, or in some cases, over the tool that was previously used.

## **METHODOLOGY**

IDC conducted interviews with IT managers provided by InstallShield. Four IT managers were interviewed from four separate companies. The questions focused on identifying how their internal processes worked for creating and updating applications prior to distribution among the companies' desktop machines. The interviews were qualitative in nature, and were each one hour in length. The interviews focused on IT productivity and management efficiency, and estimated costs from implementation.

## **FUTURE SCENARIOS**

Looking ahead, InstallShield has carved out a strong niche for itself. The company's application configuration software solution, AdminStudio, fits in nicely with a system administrator's need to ensure smooth installation of software by a person not familiar with the application. As a result, InstallShield can count among its customers system administrators writing software applications for their own companies.

Some challenges the company needs to address include the fact that an increasing number of software companies are adding configuration capabilities to their existing solutions, and users often prefer dealing with fewer numbers of vendors. In addition, new technologies are on the horizon that may reduce the need for traditional applications, and, as a consequence, application configuration. However, with foresight, InstallShield should be able to adapt to such shifts in the market and maintain its leadership position.

## CASE STUDY 1: LAW FIRM

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This law firm is headquartered in eastern United States and has 19 offices throughout the United States, Europe, and Asia. The 1,100 attorneys and its support staff of 1,800 handle legal cases that range from intellectual property to bankruptcy.

Most important, the IT staff provides the crucial service of maintaining the integrity of the data, which is one of the most important assets of the law firm. But as you'd expect, the IT staff does, at times, participate in the legal discovery process when, for example, an email that may serve as evidence needs to be tracked down through its IP path. Another instance of IT's direct involvement with legal procedures is when it has to set up a systems network for in-courtroom presentations.

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### **Business Issues**

With a large number of mobile users, the IT staff was able to only support mainstream applications, such as LexisNexis, and was not addressing the unique needs of individuals and of several offices. Compounding the support issues, individuals downloaded their own software, some of which were "home grown," not well tested or documented. To simply keep up with the growing number of applications in the network, IT took snapshots to create images and tracked the DLLs with each change or update to the applications. This informal process for tracking and managing quickly became unwieldy when the number of DLLs tracked grew to over 3,000.

### ***Relevant Statistics***

- ☒ IT staff: 150
  - ☒ Staff supporting application distribution: 15
  - ☒ Unique applications supported: 250
  - ☒ Frequency of updates: weekly up to quarterly, depending on the application
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### **Resolving the Issues**

To adequately address this out-of-control situation, the law firm created an IT policy board that instituted documented policies across all IT functions. Standards were set for the rollout and support of application software as well as the tracking of licenses. The firm has since successfully migrated from Windows 95 and NT to Windows XP. They have also installed AdminStudio and it is estimated that, over the course of the last 18 months, the IT department has performed 200 new software installs without any major conflicts or downtime.

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## **Savings / Benefits**

The organization of the IT department, the creation of the IT policy board, and the establishment of policies and procedures that streamlined application configuration across the law firm's worldwide office network were a source of savings. Additionally, the firm was able to use existing hardware to implement new software. The IT manager cites the following benefits to the firm:

- ☒ The ability to configure, test, and deploy applications throughout the network faster and more easily than before. IDC estimates that the time to configure and distribute applications decreased from six days down to three.
- ☒ Fewer calls to the help desk. Before applications are deployed, they are now approved and tested centrally thus reducing conflicts and freezes.
- ☒ Simpler internal processes for acquiring and configuring new applications for the desktop. Clearly defined standards and IT processes are key to a smooth operation. Documented standards now provide the reason that IT needs to deny the occasional individuals who request application downloads on an exception basis.

## **CASE STUDY 2: FINANCIAL SERVICES FIRM**

This financial services company with more than 9,000 employees manages over \$600 billion of assets from high net worth individuals and institutions. It has been in business for over 100 years, with headquarters in the eastern part of the United States and 87 offices worldwide.

An unusually large IT staff of 2,000 spread across North America and Europe supports the front- and back-office operations with responsibilities that range from monitoring worldwide financial markets to maintaining a complex network of financial, accounting, and management systems.

IDC interviewed the Certifications group within the IT department. This group's role is to provide a bridge between the IT department and users who wish to either purchase or build new application programs. They facilitate the development or purchase of new applications, the testing phase, and their approval cycle until each becomes an officially approved application.

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## **Business Issues**

There were two main challenges faced by the IT department and specifically by the Certification group: the company needed to migrate from Windows NT to Windows XP, and IT needed to improve its management and support of the company's 11,000 desktops. Upon closer examination of the number of application packages that would need to be converted to Windows XP, the IT group decided that the existing software for application distribution was not sufficiently robust for adequate preparation and distribution and lacked logging and scripting features. Also, the workflow associated with tracking and managing applications through to certification was informal and

paper driven. As a cost center, the Certification group had vested interest in improving the existing application repackaging and certification methodology.

### ***Relevant Statistics***

- ☒ IT staff: 2,000 with 150 supporting the desktop
- ☒ Staff supporting certification of the applications: 15
- ☒ Unique applications supported: 1,500
- ☒ Frequency of updates: weekly up to quarterly, depending on the application

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### **Resolving the Issues**

The Certification group took three action steps to address its concerns: First, it started to use AdminStudio, which helped address all of the application repackaging problems that the staff was previously dealing with. Second, it installed InstallShield's AMS product to assist with the workflow management, replacing the paper-based tracking processes. This automated workflow package allowed the staff to identify areas of opportunity for additional application testing prior to approval thus avoiding potential conflicts. Third, it also started to use Microsoft's Windows Installer to be used in conjunction with AdminStudio, resulting in a smoother and faster application certification process.

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### **Savings / Benefits**

To address the overall need for improved processes in the organization, the company bought additional hardware. Overall, the IT manager cites the following benefits to the company:

- ☒ Increase in employee productivity and satisfaction. With better understood and documented processes for packaging and distributing applications to the desktops, the Certification group can now meet end users' requests in a more timely manner as well as support a larger volume of requests.
- ☒ The Certification group has been working with AdminStudio and its new processes and products for about a year and a half now. Using AdminStudio, the staff has effectively used the package's features to certify, repackage, and distribute 350 new packages for installation without any major problems. The staff has received excellent training and customer support.
- ☒ IDC estimates that the company has saved about 50% of the time it took to configure and deploy applications, from an average of 3 days to 1.5 days.

### **CASE STUDY 3: RETAIL BANKING AND MORTGAGE SERVICES FIRM**

This retail banking and mortgage services company has its original roots dating back to the 19<sup>th</sup> century. Through a series of mergers and acquisitions over the last 20

years, it has grown to its current size of over 60,000 employees, with the bulk of its operations located west of the Mississippi and with offices across the United States.

Not surprisingly, the various mergers created a number of organizational restructures within IT division. The division was formed from other departments that ultimately evolved into its present day centralized group that is responsible for the support of tens of thousands of desktops. There is also a centralized software delivery team that packages applications, but each business unit is then responsible for the distribution and maintenance of the applications packages.

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## **Business Issues**

The company was migrating from Windows NT and 95 to Windows XP while looking to standardize its processes for the support of desktops. One of the obstacles for standardization was the existence of multiple base images. At the time, the IT staff used two software solutions to perform the repackaging and distribution of software to the desktop but it felt that neither was robust enough to meet the needs of its 2,000 unique application packages. One of the main weaknesses of the existing solution was the lack of testing capabilities against base images. At its peak, the software delivery team grew to 17 people.

### ***Relevant Statistics***

- Software delivery team: 9
- Unique applications supported: 2,000
- Frequency of updates: weekly up to quarterly, depending on the application

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## **Resolving the Issues**

As the rate of mergers and acquisitions slowed, the IT staff and leadership started to implement processes that standardized the repackaging of application packages while still allowing each business unit to carry out the installation and management functions. The fluctuation in staff requirements for the software delivery team slowed down, and they were able to keep this group centralized and focused on improving its testing and repackaging procedures. With the purchase of AdminStudio, the team also leveraged the use of MSI packages and saw immediate gains in efficiencies of application repackaging.

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## **Savings / Benefits**

An initial purchase of 6 AdminStudio licenses were followed by 12 additional ones. The company also received a two-day training package, which included a session on Windows Installer and MSI package creation. Additional costs for a consulting contract from a third-party vendor helped the department put existing procedures under a microscope. The IT manager cites the following benefits:

- AdminStudio provided the company with a cleaner user interface over its previous product. The staff felt that they had better application configuration

capabilities that allowed them to provide better support to the end users. They were also able to leverage MSI packages for distribution and take advantage of their self-healing capabilities.

- ☒ The focus on reorganizing and streamlining existing processes resulted in the consolidation of a large number of base images down to eight. Current plans for consolidation of servers will soon take place.
- ☒ IDC estimates that the company has saved approximately 55% in application configuration and deployment times, bringing the down the number of days required from 20 down to 9.

## **CASE STUDY 4: CONSUMER FOOD COMPANY**

With operations in almost every country in the world, this well-known consumer foods company has a number of subsidiaries. This case study examines the issues encountered by the IT team of one subsidiary responsible for the network infrastructure and the desktop. The subsidiary has 73,000 employees and an IT staff of 1,000 spread across 26 divisions, supporting 25,000 desktops.

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### **Business Issues**

While in the middle of migrating from Windows 95 to Windows 2000, the subsidiary encountered a number of instability issues on the 25,000 desktops. There were no clear guidelines for desktop management, and this problem was further exacerbated by several new systems that were added to its network as acquisitions were made. End users were installing their own applications on desktops without any regard for a standard set of base images. This created a nightmare situation from a support standpoint and drove the total cost of ownership to beyond acceptable numbers. There were also plans for expanding the network of desktops to include PC kiosks in several locations for employee access to update insurance policy information on the company's HR database.

#### ***Relevant Statistics***

- ☒ IT repackaging staff: 6
- ☒ Unique applications supported: 500
- ☒ Frequency of updates: weekly up to quarterly, depending on the application

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### **Resolving the Issues**

The IT team worked to consolidate all desktop applications by first creating a list of officially sanctioned application packages and then only allowing new applications to be installed by users through a permission request process granted via Microsoft Active Directory and installed over the Web.

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## **Savings / Benefits**

The initial company expenditures directly attributable to solving the desktop application package problem was limited to 23 licenses for InstallShield Developer (the 1999 predecessor to AdminStudio), which is currently maintained at a 15-seat level of AdminStudio and initial training for 20 people. The IT manager cites the following benefits:

- ☒ A simplified approach to desktop management. The consolidation of applications under one umbrella installation policy solved the instability experienced on desktops. All of the redundant applications were eliminated, and the permissions-based installation policy placed the licensing of software control back in the hands of the IT department.
- ☒ AdminStudio is also used by the parent company, which helped with support and training resources to the subsidiary as needed. This new desktop management tool also brought the company a step closer to its goal of mirroring its parent company's IT operations.
- ☒ IDC estimates that the company attained approximately 67% in time savings (from 2–3 days down to 1 day) for the configuration and deployment of applications based on empirical data provided by the subsidiary.

## **CONCLUSION**

The uptime of laptops and desktops is of critical value to corporation and user productivity. Key to achieving constant uptime is the overall process of maintaining and updating software. The use of standardized tools for the management of laptops and desktops can help ensure the constant uptime required by users.

In IDC's interviews with AdminStudio customers, IDC found that IT departments were focusing on business issues, such as stabilizing its own organizational structures and centralizing the packaging and distribution of software, to be strong contributors toward maintaining constant desktop uptime.

For customers of all sizes, standardizing application creation and configuration management prior to distribution requires processes be put in place. These customers found that migration from one operating environment to another was a significant challenge in their environments, but common to all customers were:

- ☒ **Streamlining the application configuration process.** The customers were acquiring new businesses and operating locations as a result of merger and acquisition (M&A) activity. This M&A activity led to multiple departments and groups performing redundant tasks. An overall review of those tasks led to the elimination of redundant tasks or the consolidation of tasks within a group, thus freeing assets for assignment to other tasks that had been increased in scope.
- ☒ **Providing the appropriate training.** Each of the customers didn't look at the training as something they could learn on their own in their spare time. Each of them took full training classes, either at InstallShield's offices or had training on their sites.
- ☒ **Having "many" applications and test requirements.** In addition to the approximately 30–60 applications and operating environments they managed that were acquired from ISVs such as Microsoft or Adobe, each organization had applications it developed in-house to perform specialized or mission-critical operations. This dramatically increased the number of applications and updates that must be generated and managed through the application upgrade process. Failure to address this leads to understating the need for an application that can help configure all applications through the entire process.
- ☒ **Having a tool that did the job "best."** Three of the customers mentioned that they looked at other applications besides AdminStudio, as well as existing infrastructure software tools to modify and configure the applications prior to distribution to the desktop. But they found that the existing tools either lacked key processes to make the tools easier to use, lacked key functionality, or both. Workarounds to these missing pieces were available, but the time it took to workaround these missing functions meant adding more time to configure an application that might have otherwise been spent getting the right tool and doing the job correctly the first time.

Figures 1 and 2 in this document are consistent with these findings and point toward areas that should be addressed first. It is not just the application cost that should be addressed first, but the overall cost of maintaining an application over its lifetime that should be considered. Costs for maintaining an application are approximately 5–7 times the cost of acquisition, as shown in Figure 2. Taking costs out of the configuration process leads to lower overall costs.

AdminStudio was found to have saved time for IT organizations that used this software in addition to the changes made in their organizations resulting from mergers, acquisitions, or staffing. Internal staffing changes and the use of AdminStudio caused fewer calls to go to the help desk. Organizations were experiencing increases in employee productivity. System consolidations were enabled; time to configure and distribute software was decreasing. Best of all, organizations found that installations were occurring faster and more easily than before, thanks to simpler internal processes for acquiring and configuring new applications. Overall, AdminStudio enabled simplified approaches to desktop management.

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