



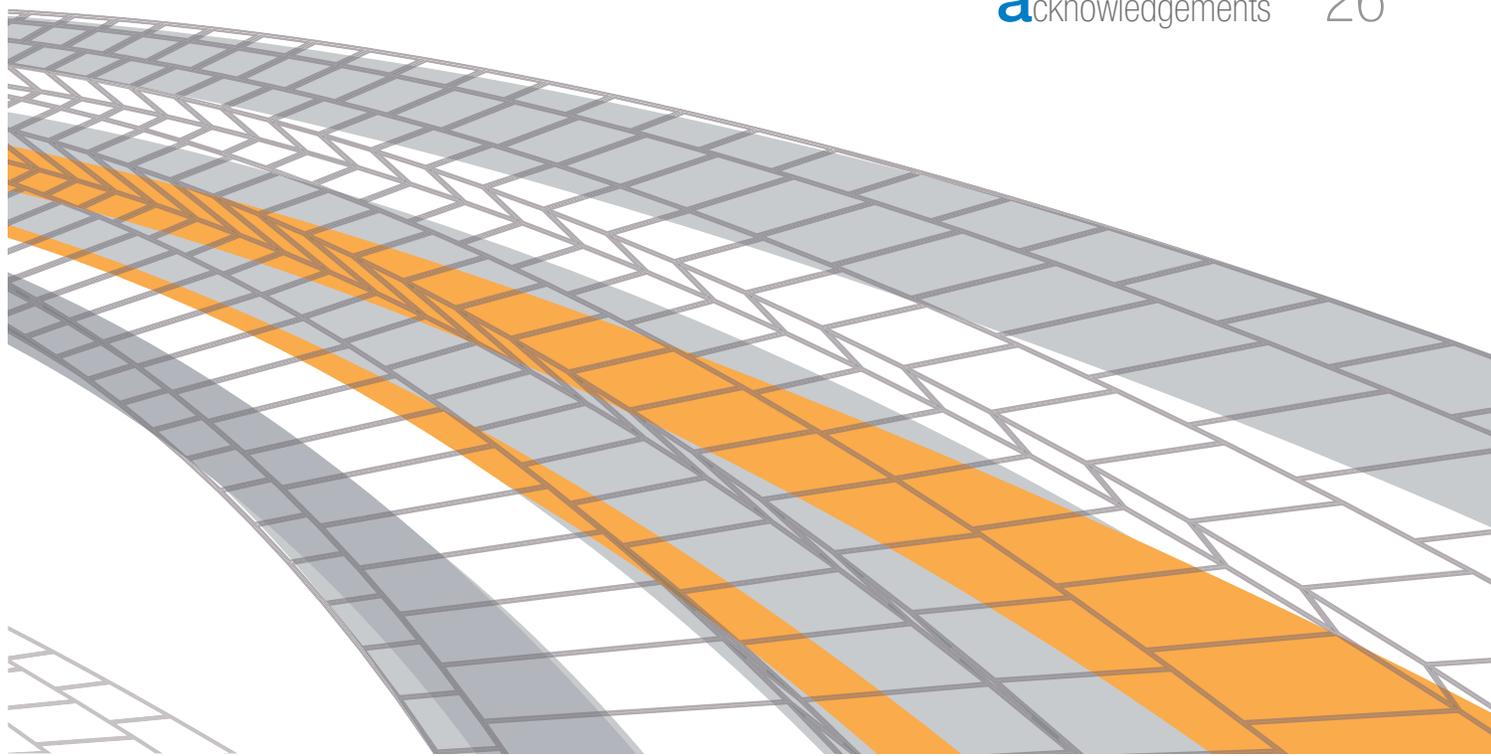
2011  
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EDITION

# Application Landscape REPORT



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# preface

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Welcome to the inaugural 2011 edition of the Application Landscape Report. This report is designed to help companies understand the current state of IT applications and review emerging trends in application transformation and modernization. Why do we need this report? We believe that at the heart of any transformation project, one must first have a clear picture of the present state. This report is a reflection of the present state as indicated by CIOs and IT Directors who struggle with transformation and IT budgetary challenges on a daily basis. Without knowing the present state, we cannot accurately capture the magnitude of achievement as we collectively modernize and transform our application landscapes and redefine the concept of a rationalized infrastructure. We hope you will use this report to benchmark where you are today compared with your peers and to devise intelligent, cost-saving, proven methods to modernize and evolve from the landscape of today to the landscape of tomorrow.

Our findings are based on analysis, surveys and in-depth interviews with IT leaders in companies of various types and sizes across both Europe and North America. We use real-life examples to illustrate how IT executives perceive the current state of their application landscape, to explore the reasons why companies find themselves supporting many obsolete and redundant IT systems, and to discover what measures are being taken to optimize the application infrastructure.

We want to express gratitude to our colleagues at HP for their continuing collaboration and support. The Application Landscape Report will be produced on an annual basis. Our goal is to provide ongoing guidance to our clients on a variety of essential IT topics for years to come.

Paul Muller  
Vice President  
Strategic Marketing, HP Software  
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We're delighted to have collaborated with Capgemini on this report, which provides a real-world perspective into the global applications landscape. Application transformation is a critical enabler of HP's Instant-On Enterprise vision, helping bolster enterprise growth, agility and ability to innovate. The Application Landscape Report provides actionable comparisons to your industry peers, information we hope will help you accelerate your own transformations.

As we celebrate the release of the first edition of the Application Landscape Report, we would like to express our gratitude to those individuals and organizations that dedicated their time to enhancing the richness of this report and encourage you to share your thoughts and feedback as we prepare for next year's installment.

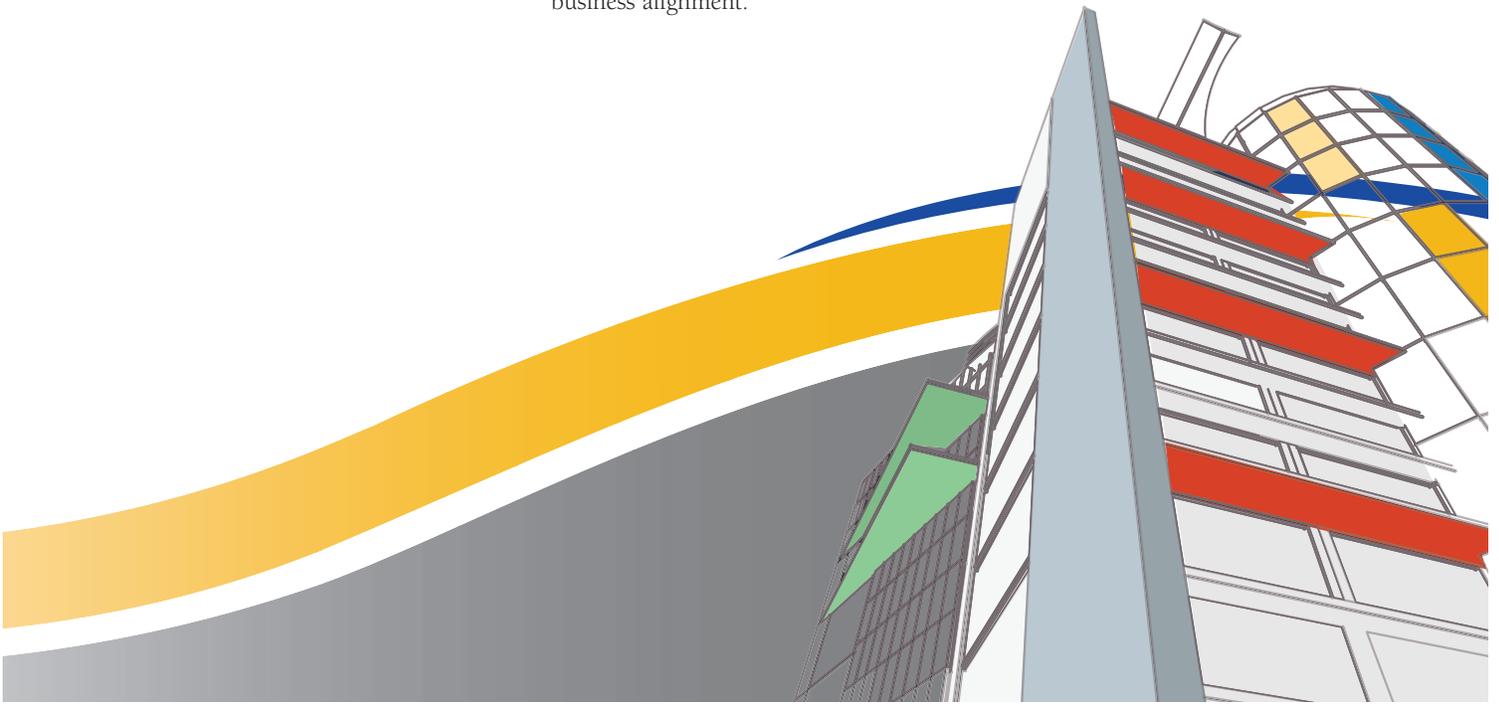
# Executive summary

IT has historically been in the forefront of innovation. Applications fueled business growth and supported its key processes and operations. However, over time, many companies' IT landscapes have become cluttered with obsolete IT systems and applications that no longer deliver full value to the business.

Most CIOs realize that large-scale rationalization projects are needed to simplify the functionality of existing applications; to reduce the amount of old technology; and to bring new, more effective applications into the business. In our survey of IT executives, 85% of respondents state that their application portfolios are in need of rationalization. This suggests that mission-critical applications implemented using outdated technology must be revised and updated to increase efficiency.

As budgets become more constricted, the focus of application strategy shifts from innovation to cost cutting. If there was adequate funding before the economic downturn for both "keeping the lights on" and finding room for innovation, today's economic climate clearly highlights new limitations in this area. The resources to support growth and new development, therefore, must now be found within the IT organization itself. By creatively modernizing and rationalizing the application portfolio, IT can derive the needed extra funds. But application rationalization is not an easy task. Cost is a key barrier to all modernization initiatives, and it is often difficult to demonstrate fast Return on Investment (ROI) to get the business buy-in.

Despite the challenges, the CIO's outlook on the application lifecycle is beginning to change. Instead of simply building custom IT solutions to solve today's specific problems, IT management is committed to bringing in more standardized, scalable and maintainable offerings. A growing number of IT executives are treating application retirement as an essential step in the lifecycle, and they are adopting new practices for reviewing and modernizing their application landscapes. Only with such a true lifecycle approach can companies maintain a healthy portfolio and ensure application quality, productivity and optimal business alignment.



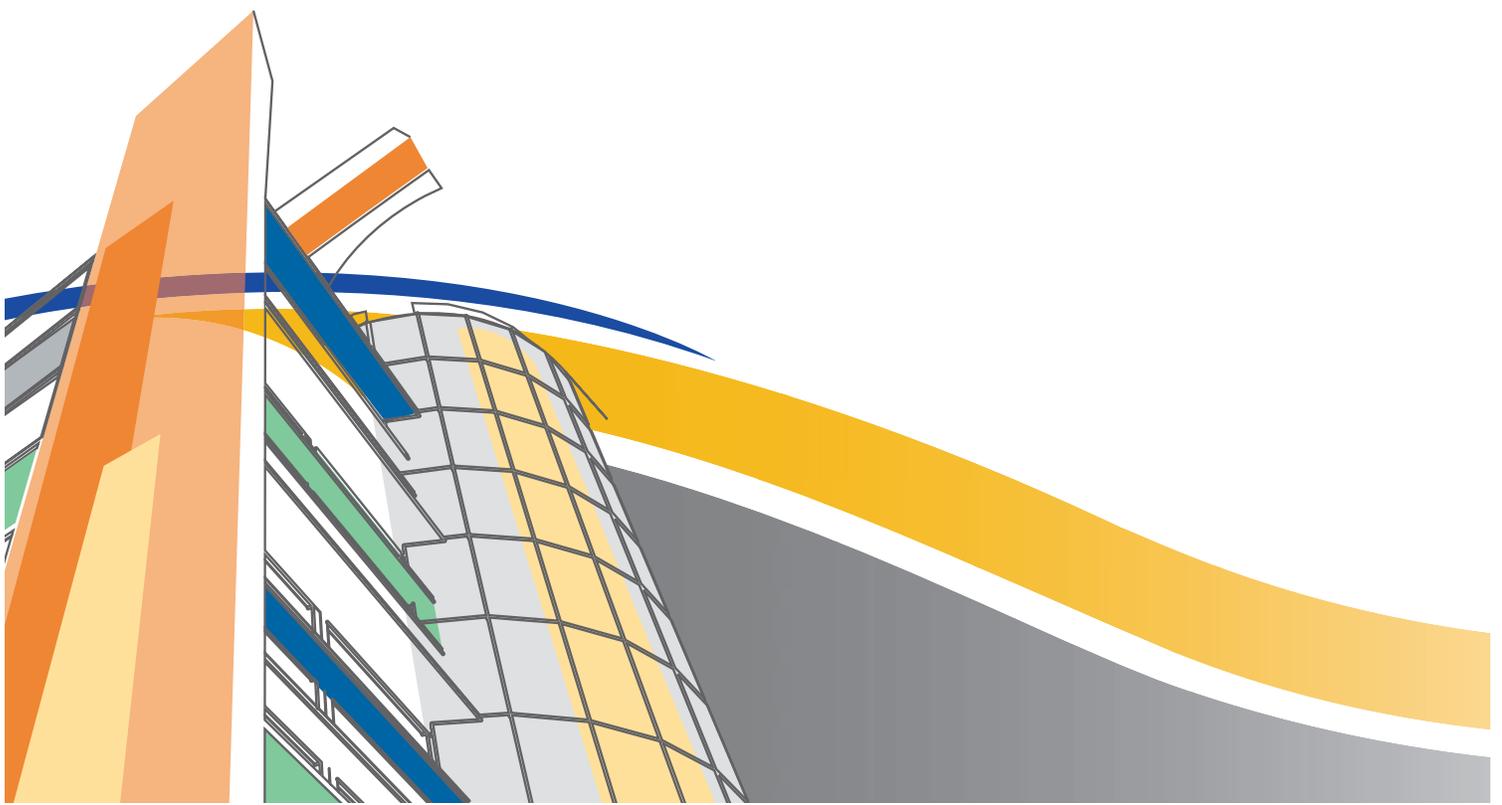
# i n t r o d u c t i o n

Application strategy is one of the main focus areas for CIOs in companies of all types and sizes. It is driven in today's environment by the need to cut costs and find the balance between supporting daily business operations and making room for innovation and growth.

Capgemini has set out to understand how different companies approach strategies around IT applications, and to gauge specific knowledge around how applications are structured, rationalized and retired across different company sizes and various geographies. We surveyed nearly a hundred companies ranging from small (under 1,000 employees) to enterprise (100,000 employees or more) in a variety of verticals across multiple European countries and North America. In addition, we conducted in-depth interviews with top IT executives of large corporations to get their unique perspective on application transformation, modernization and retirement.

What we found confirms our initial hypothesis: today's IT organizations are carrying a heavy burden of applications that are often not delivering full value to the business. Most

companies have more applications than the business needs and are forced to spend valuable IT resources on supporting obsolete systems from the past instead of focusing their assets on future growth. This report provides both quantitative analysis of the current state of the application landscape and valuable insights from individual IT executives on what is happening within their landscape and how it can be altered. We hope that the data provided in this report can help you gain better understanding of the current IT application landscape, the problems that IT organizations are facing, and possible solutions to finding the balance between keeping the lights on and investing in innovation. We are committed to refreshing this report on an annual basis to bring you the most up-to-date perspective, analysis and insights in the application modernization space.



# hypothesis for this report: **Building the New City** in the **Old City**

For decades, the business and IT departments have developed solutions without regard for what will happen when these applications reach the end of their useful life. Engineers built applications for specific business problems, patched broken functionality, periodically upgraded core systems, and managed the multitude of redundant applications and large amounts of data that came with each merger or acquisition.

Eventually, this chaotic growth began to cause serious problems. Like an old city with narrow streets and outdated infrastructure desperately trying to provide modern conveniences to its fast-growing population, IT now struggles to deliver value to the business while dealing with the legacy of many years of unrestrained growth and burdening complexity.

Today's CIOs are spending too much valuable time, effort and budget on their sprawling application landscape. They struggle to find resources to support innovations and more opportunistic, value-driven business initiatives. The top priority for the CIO in 2011 is to rationalize the application portfolio to increase productivity, improve flexibility and adaptability, and better align IT with the business. However, many CIOs find it difficult to get support and business buy-in for their rationalization initiatives. Lack of convincing business cases and coherent strategies, poorly defined architectural alignment, and inconsistent and unreliable application intelligence can significantly hinder any effort to bring order to chaos within the IT landscape. CIOs can apply multiple strategies to rationalize their applications, including sustaining, extending, remediating, re-platforming, migrating, replacing, consolidating and retiring. The question is which strategy is the best for a given situation that results in timely, realized ROI to support the near-term business goals.

CIOs also need to consider making a change in the application lifecycle. Today, the activities of "building applications" and "maintaining applications" are often treated separately, assigned to different business units or even outsourced to different providers. For a more streamlined application landscape, there needs to be better

alignment between development and maintenance. Developers need to create applications that can be easily maintained, and maintenance personnel should focus on simplifying and rationalizing business applications – rather than simply stabilizing and maintaining the existing IT portfolio. Application retirement and data management must be viewed as essential steps in the application lifecycle. All IT systems should be regularly examined and analyzed based on clearly defined criteria to determine if they still provide value to the business or are candidates for decommissioning or other rationalization activities.



The top priority for the CIO in 2011 is to rationalize the application portfolio to increase productivity, improve flexibility and adaptability, and better align IT with the business.



# the State of the Application Landscape

Applications are integral to all primary value chain activities. They enable companies to collaborate, be more productive, and increase operational efficiency.

The core function of IT applications is to support the business. “In order to deliver the services that we provide to our customers, the applications are absolutely crucial,” says Greg Branch, Chief Architect at Colt. “It would not be possible for us to operate without systems to automate provisioning and manage workflow and delivery of customer orders.” The scope of applications covers a wide range of functions extending to all operations company-wide both horizontally and vertically. “The applications are vital organs of the business...the applications suite is the lifeblood of the organization,” agrees James de Watteville, CIO of RSA.

Applications comprise a core part of any IT strategy. However, a closer look reveals that the current state of applications is far from perfect. All respondents agree that application landscapes are generally very complex and poorly structured. Outdated legacy technologies, lack of adequate skills to support existing systems, duplicate applications resulting from acquisitions, and a mismatch between global and local systems creates problems for corporate IT.

“Our IT landscape is like an Arctic ice field – with a lot of peaks, hidden crevices and thin ice, which you can fall through sometimes without realizing you are about to do so,” says Robert Borchelt, Manufacturing IT Director, Cummins. “The application landscape is like a big complex machine that constantly needs engineers to be hitting it with a hammer to keep it working right,” concurs Greg Branch, Chief Architect at Colt.

There are several reasons why application landscapes have grown so complex. Companies do not go overnight from streamlined, rationalized systems to a tangled landscape of redundant and outdated systems. It happens over long periods of time, sometimes following large events like corporate mergers, other times just through organic growth and development. Many of our survey respondents agree that their organizations have too many applications.

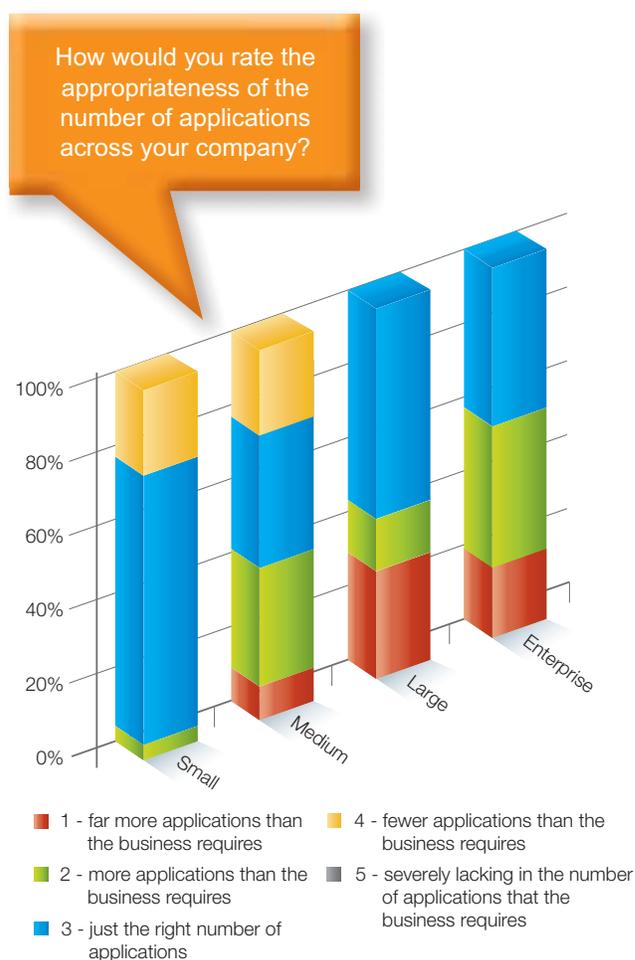


FIGURE 1: Half of all large and enterprise company respondents indicate that their IT organizations carry the burden of maintaining more applications than is necessary for the business.

Not surprisingly, the perception of the appropriateness of the number of applications relative to the business needs changes significantly depending on company size. While nearly 60% of enterprise respondents say that they support “more” or “far more” applications than is necessary to run the business, nearly three-quarters of small business IT executives say that they have just the right number of applications, with a further 23% suggesting that they do not have enough IT systems to support the business.

This difference in data can be explained by the overall number of applications supported by IT in companies of varying sizes. In smaller companies, 84% of surveyed respondents indicate that they support less than 50 applications in their IT portfolio – compared to up to 10,000 applications in the Enterprise category. However, this does not mean that smaller organizations are not affected by the issues related to application complexity and the need to rationalize the IT landscape. Small businesses have limited IT staff and fewer resources available for application maintenance. Perhaps most importantly, small companies are under greater pressure to be nimble and react quickly to the changes in economic, business and competitive climate. Having just a few applications that do not provide business value can significantly impact a small company’s ability to adapt and innovate.

Our research identified the following key reasons for IT application landscape complexity:

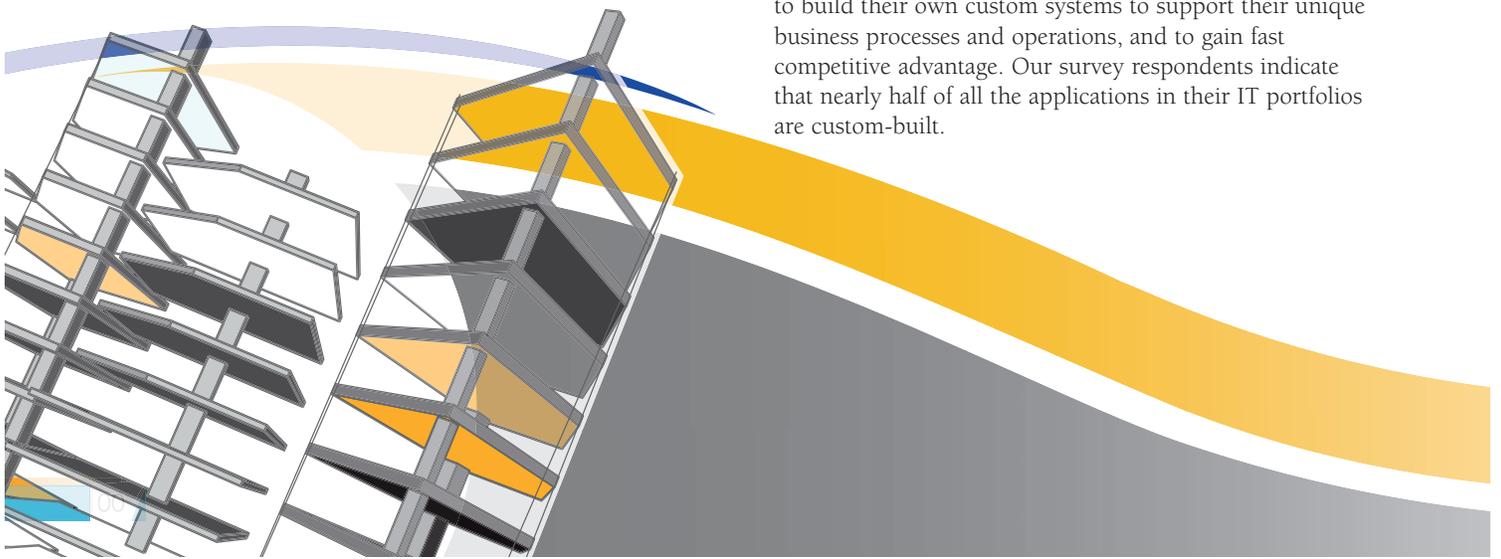
1. Mergers and acquisitions result in many redundant systems with duplicate functionality.
2. Custom legacy applications are becoming obsolete and are difficult to maintain, support, and integrate into the new, modern IT infrastructure.

3. Companies continue to support applications that no longer deliver full business value and do not support current business processes.
4. Most organizations have a data-retention and archiving policy, but in reality the majority of companies are not willing to archive application data for fear of violating industry and government retention requirements.

Naturally, some redundancy is unavoidable as a result of mergers and acquisitions. When companies join together their IT systems, a number of applications are inevitably going to perform duplicate functions. Unfortunately, few companies have a clear strategy for archiving the data from obsolete applications and decommissioning redundant systems over time. A much more typical outcome of a merger or acquisition is to have multiple systems running in parallel for years, often lacking a significant user base, not properly integrated into the company’s reporting and other IT systems, and causing a major strain on IT resources. “The applications state is a mess,” says James de Watteville, CIO of RSA, “because this 300-year-old organization has grown through various mergers and acquisitions, each of which brings a new set of applications.”

Pascal Bataille, Enterprise Architect at Alcatel-Lucent, France, concurs: “When Alcatel merged with Lucent, we inherited an IT landscape where most applications were duplicated or multiplied given the history of previous purchases. Yet we had to connect and maintain them to support all our customers and all business specificities from Day 1. It took some time to deal with the usual politics in this situation and assess them technically and against the strategy of our new company, and come up with a strategic landscape and validated decommissioning plan”.

The other common cause for application complexity is custom applications. Traditionally, most companies chose to build their own custom systems to support their unique business processes and operations, and to gain fast competitive advantage. Our survey respondents indicate that nearly half of all the applications in their IT portfolios are custom-built.



“Non-custom-developed applications are built for a wide range of audiences. They are not specific enough for our needs,” says a senior IT executive of a global publishing company. “I have seen a lot of solutions fail as they have been too general and when we try and customize them, they become un-maintainable.”

Naturally, the number of custom-built systems varies depending on the company size – bigger companies with large IT teams traditionally develop more custom applications than their small and medium counterparts. On average, 56% of large and enterprise company respondents indicate that half or more of their applications are custom-developed, while only a third of their small and medium-size company colleagues say the same.

But as companies grow, develop new product offerings, merge and acquire new business units, they begin to lose control of the rapidly growing number of custom-built applications and databases. Fast advances in technology make it increasingly difficult to maintain outdated legacy systems. “We use a lot of complex, slow technology which can be a nightmare,” says a business solutions professional from a large Spanish enterprise.

One CIO offers an interesting example of a custom-built set of legacy applications and its rising maintenance costs: “Back in the ‘80s, we built a few very advanced applications. Unfortunately, they are rather expensive to run and are not designed and built for speed and performance. These applications are like bulletproof double-decker buses. But since we haven’t migrated off the legacy platforms, they are

The applications state is a mess, because this 300-year-old organization has grown through various mergers and acquisitions, each of which brings a new set of applications.”

James de Watteville  
CIO of RSA

What percentage of your company’s applications is custom-developed?

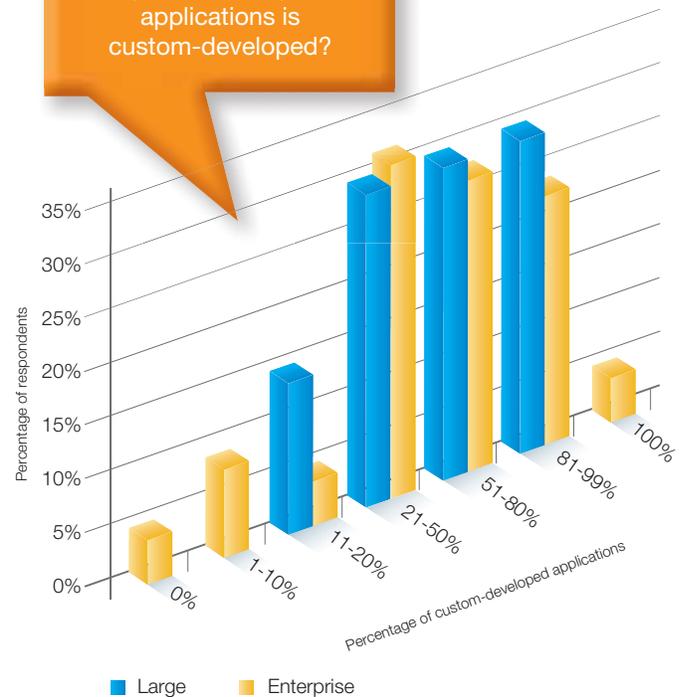


FIGURE 2: A full 56% of large and enterprise company respondents say that half or more of their applications are custom-developed.

essentially bulletproof double-decker buses with about six passengers. They cost an absolute fortune to run and if you want to change anything, you basically have to take all the steel cladding off and take it to pieces. It costs a fortune to make what would seem to be a relatively straightforward change, and it takes many months.”

Of course, some of these legacy systems are still supporting key business processes and cannot be easily decommissioned or replaced with more modern solutions. Most IT portfolios, however, contain dozens if not hundreds of outdated legacy applications that are no longer considered business critical, but continue to be maintained for governance, compliance, data retention and other reasons. Often companies lack clear guidelines for retiring obsolete applications and archiving their data. As a result, outdated systems continue to plague IT landscapes, diverting resources away from innovation and growth. Only 4% of all survey respondents say that every IT system that they support can be considered business-critical. Merely 41% indicate that half or more of their IT systems are vital to the business, and 17% think that

What percentage of your company's applications is considered mission-critical?

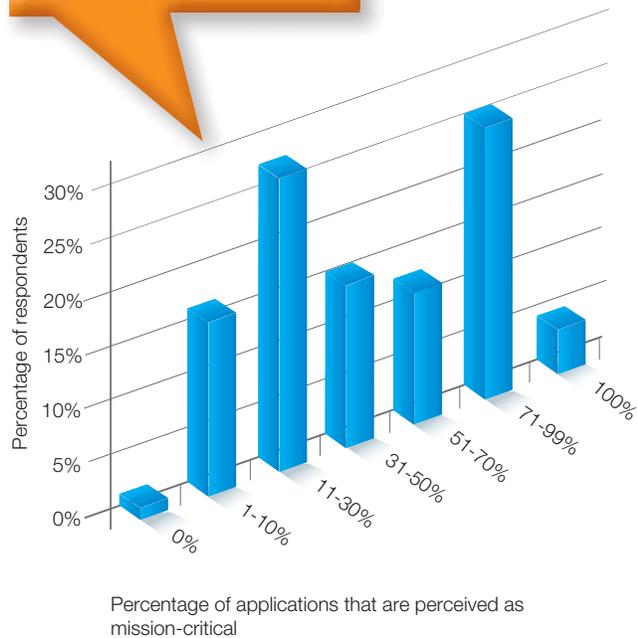


FIGURE 3: IT supports many systems that are not mission-critical.

only a few applications (10% or less) in their entire portfolio can be classified as mission-critical.

In addition, companies have a problem with data retention. IT systems generate great quantities of data, which can grow exponentially – up to 5% per month on a large system. Not

Which of the following statements best fits your company's experience of data retirement or archiving?

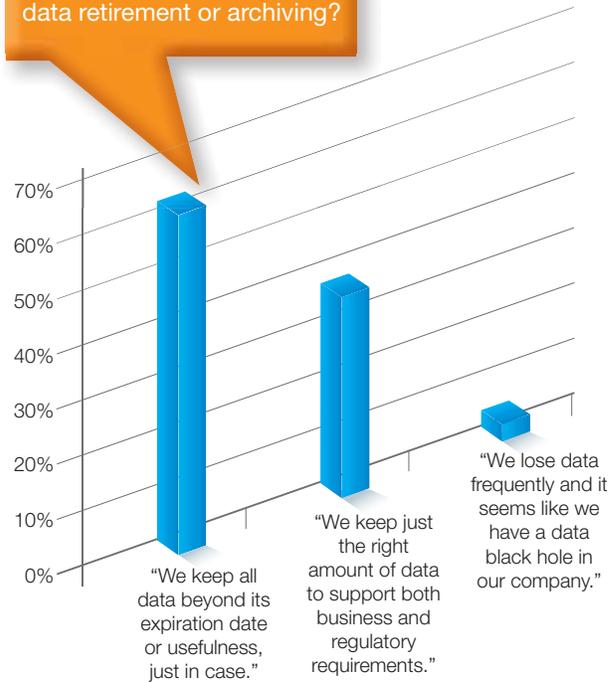
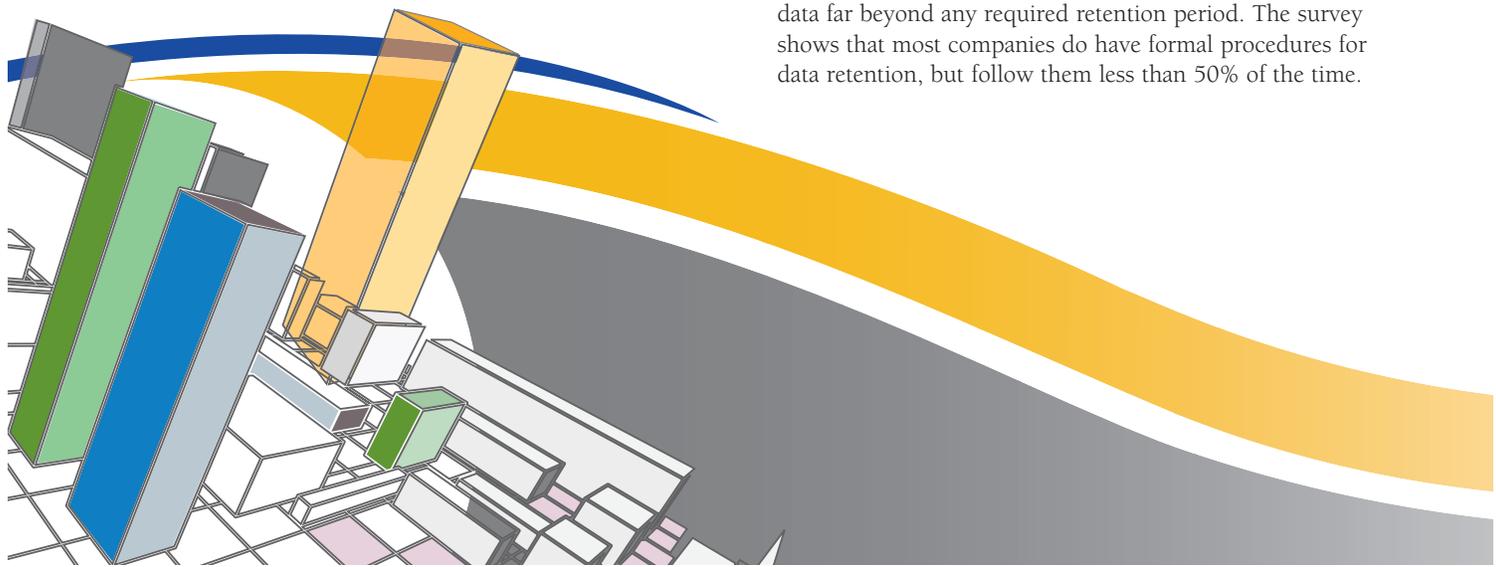


FIGURE 4: Most companies have inefficient practices for data retention.

only does this uncontrollable data growth increase storage requirements, it becomes increasingly difficult to manage, retrieve, search and report on. Most companies keep their application data for compliance purposes, but in reality IT organizations often lack clear guidelines for archiving and retaining data, and as a result, companies tend to keep their data far beyond any required retention period. The survey shows that most companies do have formal procedures for data retention, but follow them less than 50% of the time.



# Increasing IT Efficiency through Modernization

The role of IT has shifted over the years. Instead of merely providing support for the business and its priorities, IT has evolved into an equal partner, actively participating in the decision-making process and developing initiatives together with the business.

Predictably, most IT executives see the alignment with the business and increased business value as their highest priorities. In our survey, we asked IT executives to select three top priorities for 2011. The answers are consistent across all company sizes, industries and geographic locations: the number one priority for the CIOs in the coming year is to bring more value to the business, followed closely by improved efficiency and cutting costs.

Making IT systems more cost efficient is not an easy task. It requires careful assessment, planning and phased implementation. Any changes to production IT systems can cause disruption, require additional expenses and create temporary inconveniences. Radical changes often face resistance and difficulties getting the buy-in from all the stakeholders in the organization. However, without fundamentally changing the way IT looks at its application portfolio and application lifecycle, it is impossible to increase agility and provide opportunities for innovation and future business growth. “We need to make sure that money doesn’t only go into continuity costs,” says an IT executive at a European airline. “We are trying to ensure that continuity spending is reduced each year and leaves enough money for innovation.”

Our survey respondents indicate several strategies that their companies use to rationalize their application portfolios and reduce “keep the lights on” spending.

The top rationalization approach involves standardizing the application portfolio by reducing the number of custom-built IT solutions and moving toward a more common set of applications, technologies, and infrastructure throughout the company.

What are the three most important goals of the company CIO?

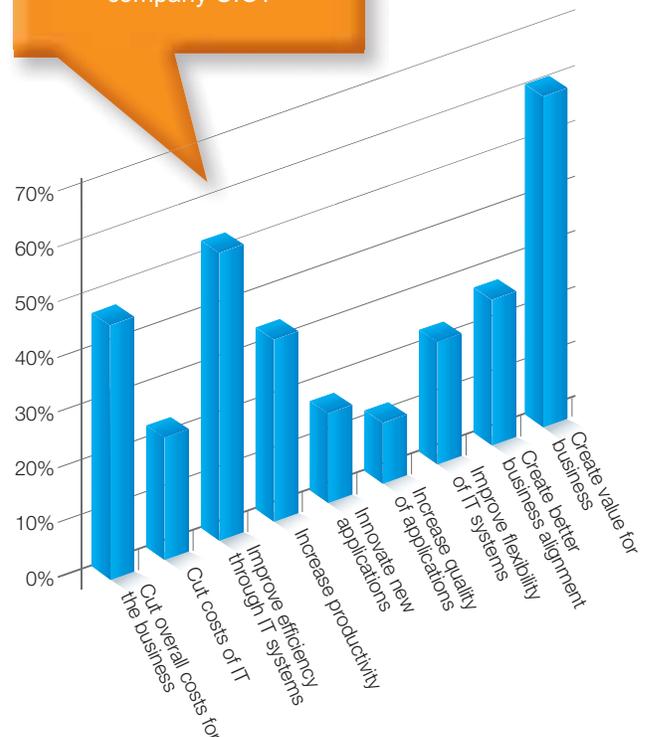


FIGURE 5: Delivering value to the business is the top priority for corporate IT leaders.

Which strategies is your company most likely to use when rationalizing applications?

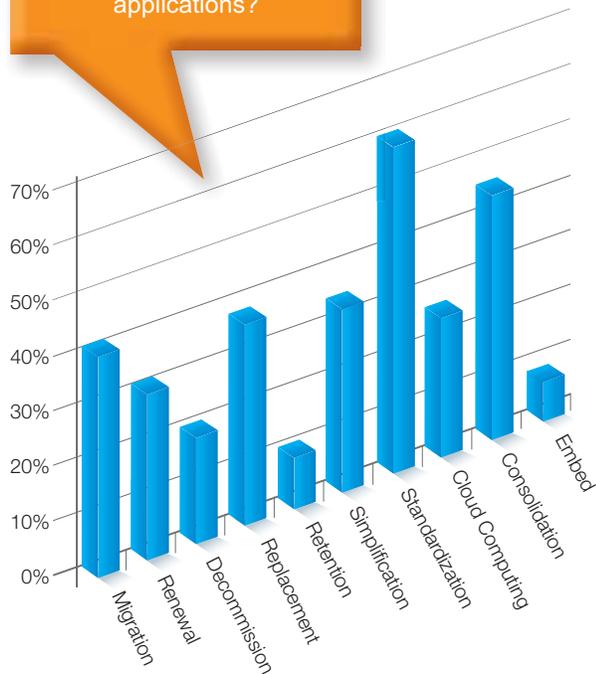


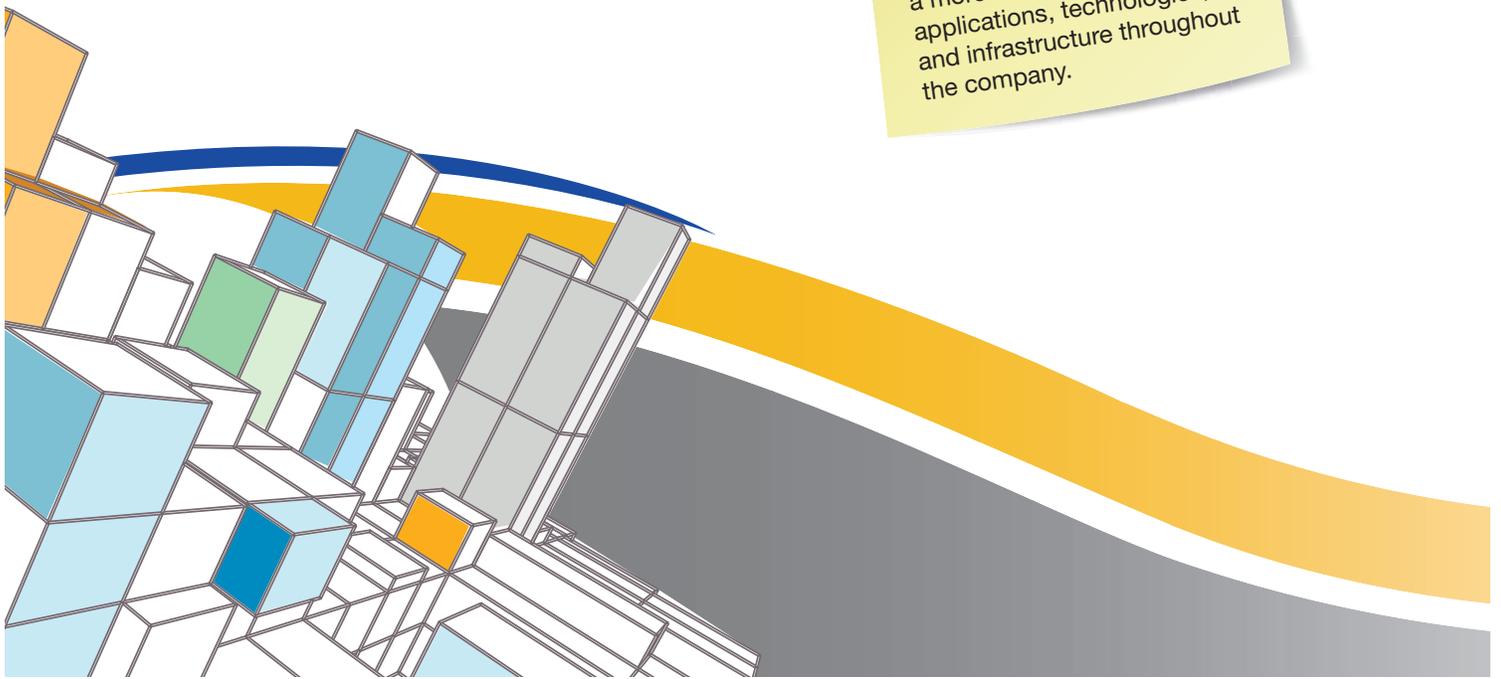
FIGURE 6: Standardization, consolidation and migration are among the most popular rationalization strategies.

“Even before the recession, we started moving towards a path of more centralization and standardization to reduce IT costs,” says Robert Borchelt, Manufacturing IT Director, Cummins. “The recession only helped highlight the importance of these initiatives and reinforce the direction the CIO had already set.”

“We used to have hundreds of applications from different banks in different countries,” says a senior IT executive at a pan-European banking company with operations in 22 countries. “Now we have a platform strategy where we bring different banks onto two or three core banking platforms to harmonize systems and applications across countries.”

The survey respondents also selected consolidation, migration, replacement and simplification as popular rationalization strategies. “Our biggest challenge is to get off the old, flaky, unsupported legacy applications and migrate the business onto a much smaller number of strategic applications,” states one CIO from the UK.

The top rationalization approach involves standardizing the application portfolio by reducing the number of custom-built IT solutions and moving toward a more common set of applications, technologies, and infrastructure throughout the company.



“Historically, our challenge has been the complexity of the business,” concurs Greg Branch, Chief Architect at Colt. “We had too many customer-specific options. Now the focus is on simplifying the product portfolio so that we only provide the required functionality rather than many custom ‘nice to have’ features, simplifying our IT applications and making them more maintainable.”

We believe that all of these strategies are closely related and should be implemented in conjunction with one another. For example, in order to standardize on a few selected applications and platforms, IT may choose to retire several duplicate systems, consolidate redundant functionality into one common solution, migrate old legacy applications onto modern platforms, and potentially even implement some of their applications in the cloud to save on infrastructure costs.

Curiously, retirement – or decommissioning – of applications did not make the list of top rationalization strategies, even though nearly a third of our survey respondents agree that between 1% and 10% of their application portfolio needs to be retired, and another half of surveyed IT executives estimate the number of applications that are candidates for decommissioning to be between 11% and 50%.

There seem to be several reasons why application retirement is not yet top of mind for most CIOs. Perhaps the most significant one is that IT professionals typically view the application lifecycle as a three-step approach: build, deploy and maintain, ignoring the fourth step – retirement or end-of-life. Our survey respondents indicate that it is still often easier to make a business case for acquiring or building an application – than for retiring it.

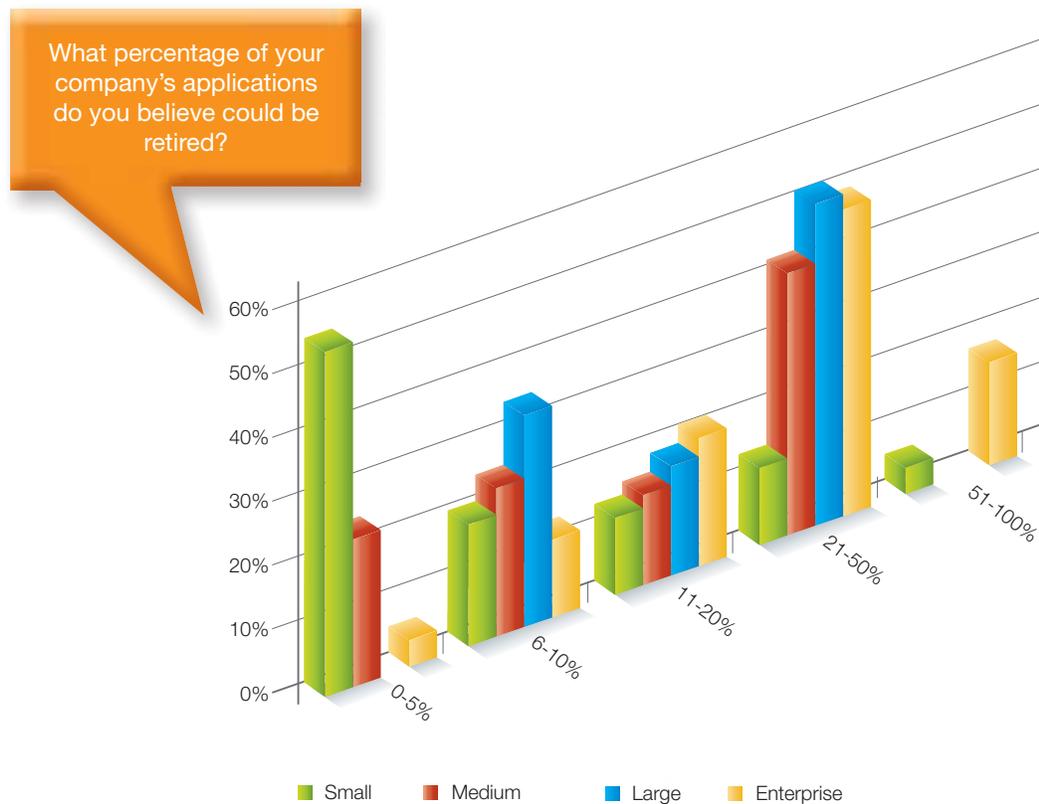


FIGURE 7: Companies have many applications that need to be retired.

There are several key barriers to application retirement:

- **Cost of retirement projects.** IT budgets are typically allocated based on the costs of maintaining existing applications or continuity costs and new projects. Finding additional funding for application retirement can be challenging – especially in difficult economic times.
- **Lack of immediate ROI.** It is often difficult to get buy-in for application initiatives because time horizons for investment decisions tend to be short term and rarely over one year. Many businesses expect to see ROI on projects in six months or less. With rationalization initiatives, it is not easy to show quick ROI – especially if rationalization projects involve different types of applications. “In the last two years, we have reduced the number of data centers from 20 to five,” says an IT executive from a global French telecom company. “Data center rationalization takes much longer than changing small applications.”
- **Company culture and behavior.** Employees are often resistant to change. People become comfortable using certain technology and processes, and as a result, become reluctant to any changes to the familiar and consistent environment.
- **Differences between regions.** Different regions, subsidiaries and even groups within an organization may have different opinions regarding application retirement. Without their buy-in, any retirement initiative is likely to fall short, as IT would still have to support redundant and de-centralized applications.
- **Lack of qualified developers to migrate retired application data and functions.** This is especially true for custom-designed systems. The people who were involved

What are the key barriers to retire your company's redundant applications?

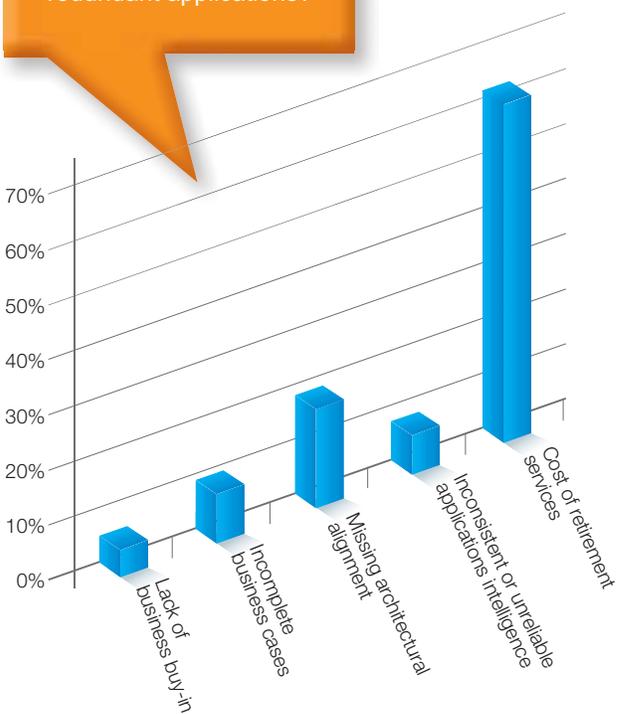
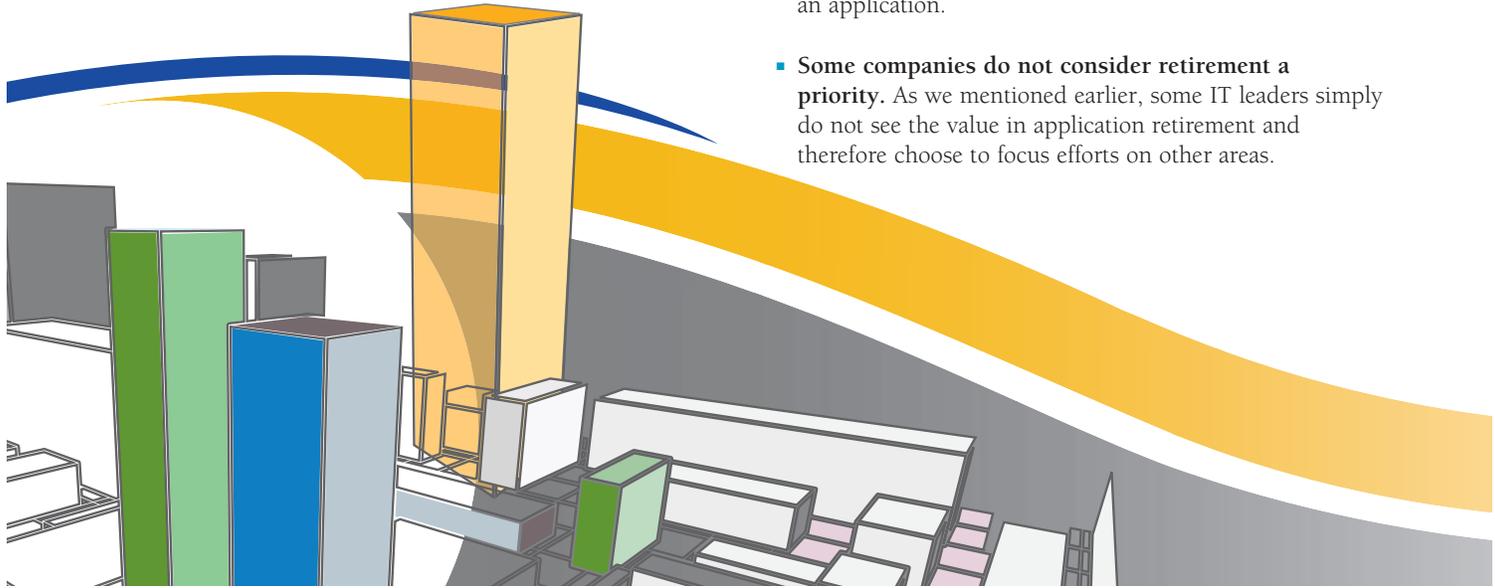


FIGURE 8: The key barrier to application retirement is cost.

in building them are no longer with the company, and nobody fully understands the underlying processes and complex relationships between application components to successfully migrate the data and safely decommission an application.

- **Some companies do not consider retirement a priority.** As we mentioned earlier, some IT leaders simply do not see the value in application retirement and therefore choose to focus efforts on other areas.



# Companies' Experiences with Retirement and Rationalization are Mixed

Most of our survey respondents agree that application modernization is the best way to divert IT resources from supporting the old, outdated systems and making room for innovation.

The surveyed companies have mixed experiences with application rationalization. Some have had success and achieved significant improvements, while others failed due to lack of alignment with the business, poor planning or higher-than-expected project costs. Below are some examples of both successful and failed rationalization attempts described by surveyed executives.

## Rationalization Successes

- In July of 2010, an Italy-based, large pan-European banking organization rationalized and substituted all core banking applications (over 100 total applications) over just one weekend. The key to success was extensive preparation: the project was planned for over two and a half years, and as a result, the old applications could be turned off and the new ones were ready to take over their functionality. Best of all, the new application portfolio was consistent with applications that were already in use in other countries where the bank operates. "It helps to harmonize various systems such as account management, data management or payment systems," says the CIO of the bank. "We used to have hundreds of applications from different banks in different countries and many redundant systems. It is IT's role to harmonize these."
- Five years ago, Cummins, a US corporation that designs, manufactures and distributes engines and related technologies, had unique legacy systems running at every plant. Cummins launched an initiative to develop a common solution. As a pilot, Cummins IT implemented the new standardized solution in China and immediately saw significant quality improvements. "The new solution was implemented with relatively low pain," says Robert Borchelt, Manufacturing IT Director. "Our past approach was decentralized. People at each plant thought that their situations were unique. They assumed that the standard solution would not meet their needs and went looking for something else, thinking that a non-standard solution would be a better fit. Things have changed now. Today, the only drivers are to bring cost down for the implementation and roll out new systems cheaper and faster."
- Just before the millennium, a national European airline had a big project to ensure that its applications were millennium-proof. While taking the inventory of its applications, the airline's IT discovered that half of all applications in its portfolio were obsolete. "We got rid of half the applications we had running," says the airline's IT executive. "We found that once we had a system created, we never threw it away. In some cases things were replaced with new systems but we still had the old one running." Shortly after the millennium project was completed, IT instituted a new policy that requires periodic inventory and screening of the entire application portfolio to avoid duplicates.

## Rationalization Failures

- In 2003, a 5,000-employee US-based company launched the initiative to retire one of its core systems and replace it with a new, modern application. Seven years later, the system is still there. The sheer size of the application and the amount of data stored in it, combined with the lack of clear archiving and retiring strategy, caused IT to abandon the project. "With no real strategy on how to retire all the pieces and migrate the data to the new system, it just did not get done," says the company's director of creative systems. Similarly, the company still has a lot of outdated technology such as Lotus Notes that it would like to retire or rationalize. However, the project is so large and complex with different instances of Lotus Notes running on different servers, that IT is uncertain if they can take it on.
- One company faced major resistance when IT decided to switch from an assortment of existing configuration management tools to a standard open source solution. "Some groups were not open to it," says Mark Bohlman, IT Director, large American aerospace and defense technology company. "They were not willing to disrupt their programs. People get comfortable with their ways of doing things. Our biggest challenge is a cultural one, not around the applications themselves."



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# Application Strategies that work

In our interviews and surveys, we have identified several application strategies that have proven successful in building a solid foundation for maintaining a healthy, continuously rationalized application portfolio.

## Build Maintainable Applications

Today's CIOs are looking to create better alignment between application development and maintenance activities. Only 13% of all survey respondents indicate that there is close synergy between their application development and maintenance teams, while nearly half (48%) say that the teams that build applications and the ones who keep them running are in synch 50% of the time or less. "We typically have alignment problems with applications that are brought in-house from mergers and acquisitions," says the Director of Web Services at a US educational and trade publishing company. "Development teams may not have a full handle on those systems. As a result, whenever there are issues with the application delivery or performance, the application management team and the development team point fingers at each other."

By emphasizing the synergy between the different groups who are involved in application design, development and maintenance and building solutions that are easy to maintain, IT can streamline its operations, reduce costs and achieve greater agility.

Robert Borchelt, Manufacturing IT Director, Cummins, offers an example of a well-structured collaboration that helps Cummins create applications that are maintainable and supportable. "IT has divided up responsibilities into specific layers," says Borchelt. "The first level (level 1) is the business users who are paired with business analysts and functional architects on the IT side who understand the requirements and structure of applications. They then hand off the application design to the hardware architecture team (level 2) to make sure that we have the enterprise infrastructure to support those applications. The next step is to hand the design off to the Application Development and Support Centers (level 3) for each major application area. They have full responsibility for development and support of those systems. The supplier for that layer is the Standards and Processes Group who controls ways to manage development and deployment and act as a

functional excellence team. This group develops the tools needed to run Application Development and Support Centers. The next level of IT supports and maintains the application infrastructure and backs up application data. There are clear responsibilities and roles and a structured stage gate process to guide through application implementation and maintenance."

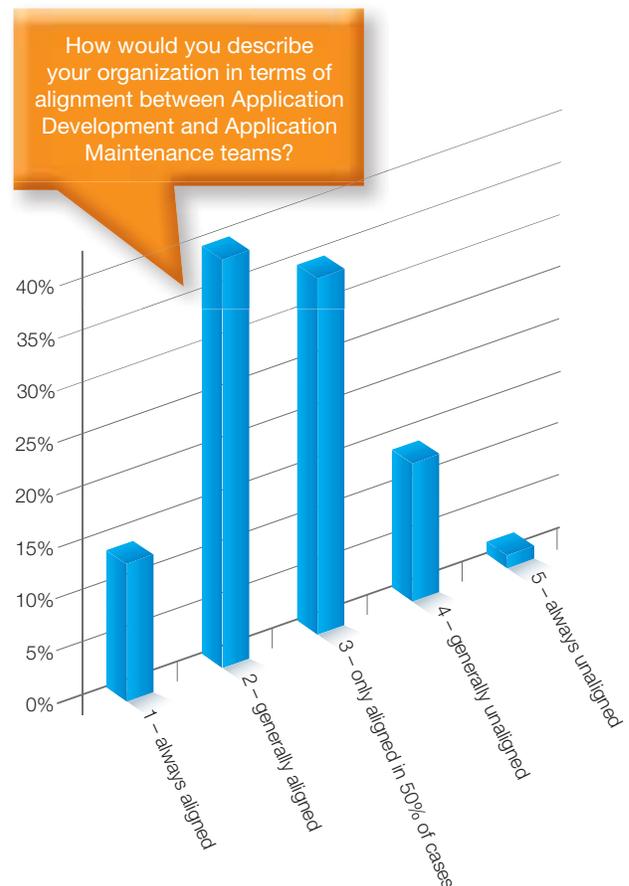


FIGURE 9: Development/maintenance teams are not always aligned.

## Implement Portfolio Governance Strategies

“There is a limited budget and restricted resources, and therefore developers are not always able to fulfill the requirements of the business,” says the VP of Strategy and Governance at a large European telecommunications company. Without clear governance strategy, it is next to impossible to accurately prioritize the IT demand and find the right focus that’s in alignment with the business priorities. “For 2011, we have 150 application requests,” says the Director of Creative Systems at a small US company. “Some are enhancements for existing systems, while others are requests for new system designs and new applications. It is difficult to understand which ones are more critical and which requests we should devote our resources to first.”

Solid IT portfolio governance practices and tools help businesses focus on core activities while staying informed about all aspects of project and application health. It allows IT teams to manage their entire portfolio of projects and operational demands while keeping their focus on strategic opportunities that are vital to the business. Robert Borchelt, Manufacturing IT Director, Cummins, explains the organizational structure that helps manage application rationalization initiatives: “Cummins’ architectural department is an integral part of managing and rationalizing the application landscape. We have Architecture and Security reviews prior to each major overview in the IT projects. Anything that’s not part of the enterprise architecture has to be explained, and the requestor must apply for an exception. These reviews are part of our rollout process, and we have the authority to block the projects if they are not complying or are an exception to the roadmap.”

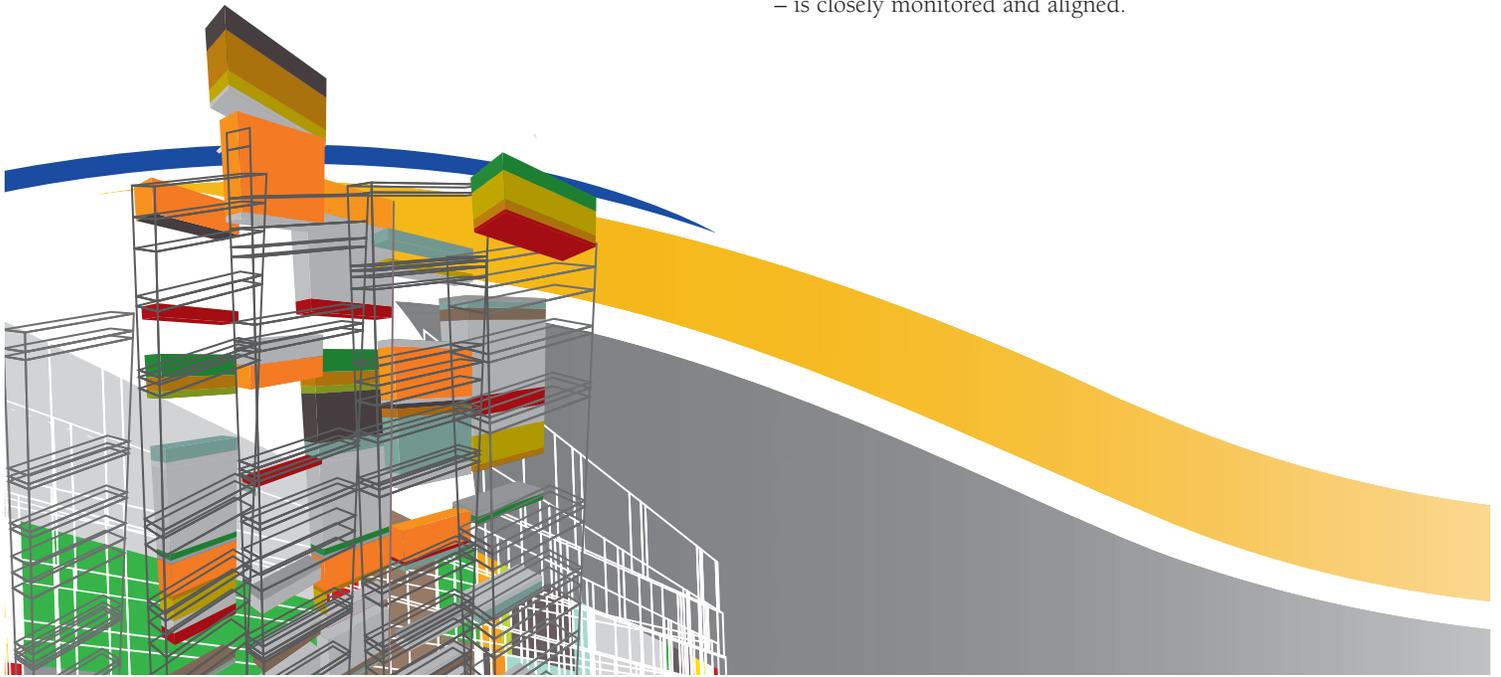
## Achieve Greater Alignment with the Business

The majority of application development projects are initiated by the business. Our survey shows that while IT does launch a portion of new application initiatives, the majority of IT systems are commissioned by the line of business. Nearly a quarter of respondents say that none of their new application building projects come directly from IT, with an additional 50% stating that under a third of their IT systems are being initiated outside of the line of business. With the business driving the IT portfolio, it is essential to achieve greater alignment between the business users and the teams that develop and support the applications.

However, better alignment is just the first step towards a true “fusion” of business and IT, in which IT is not only a quick responder to emerging business needs but also acts as a catalyst and driver for innovation. Business transformation and IT thus become inseparable, and the role of IT in creating new value is implicit to the business innovation process, rather than something that has to be argued and demonstrated repeatedly. This true synthesis is not easy to achieve and no shortcuts seem to be available. IT must rationalize its own portfolio first, and then become more responsive to the needs of the business before being able to act as the natural partner for business in innovation and change.

## Overcome Resistance to Change

The key to success is to involve business stakeholders when designing the application strategy and ensure that the entire rationalization process – from development of new applications to phased implementation, introduction and learning – is closely monitored and aligned.



What percentage of new application development is initiated by IT as opposed to the business?

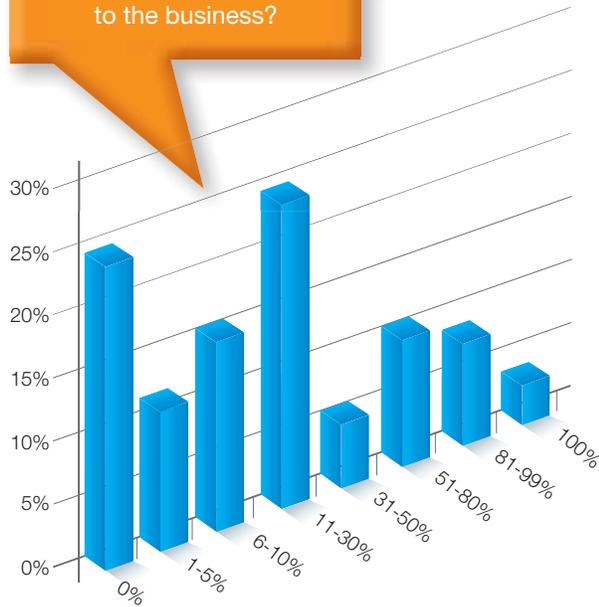


FIGURE 10: Most new application development projects are initiated by the business.

“One year ago, culture and fear of new things would have caused a good deal of resistance within the company,” says Pascal Bataille, Enterprise Architect at Alcatel-Lucent, France. “But today, the company is empowering its

employees. The world is changing, and our customers expect innovative solutions from us. Bringing new technology along with new blood and social networking, and using it is seen as the ‘leadership of people.’ Now people tend to use new technologies very quickly because they want to play their part in the transformation. They do not want to be left behind, so they are trying to embrace the new applications and technologies very quickly. Of course being a leading innovative high tech company probably helps us!”

#### Trust but Verify: No Improvement without Deep Insight

Simply knowing how many production systems exist in a company’s application portfolio is not enough. Before making any changes, IT managers need to use analysis and metrics to understand the inter-relationships between applications and their dependencies. Today’s IT professionals have at their disposal a wide array of automated discovery and dependency mapping tools that help identify and map the relationships between applications and the underlying infrastructure. There are many subjective and objective criteria that can be applied to identify which applications should be kept in their current state, which ones should be changed, and which are deemed obsolete and are candidates for retirement. These criteria are often referred to as “situational lenses” and involve many different aspects of functional, structural, financial and business relevance. For example, it is not important to know how many users the application has. It is much more significant to understand the business criticality of each specific system and to what extent the application impacts the company’s revenue.

“Our rationalization process is to assess the existing service portfolio to determine how it supports the customers and how it is supported by the underlying infrastructure. Then based on this assessment, we can simplify the infrastructure to implement the services that meet most of our customer needs and will result in the greatest revenue increase for the company,” says Greg Branch, Chief Architect at Colt. “We can deliver a tailored service for those customers who have special requirements, as long as the additional cost is factored in. For the majority of customers, we can deliver better service and increased value through a simplified portfolio.”

### Outsource the Solution, Not the Problem

Almost three quarters (74%) of all application portfolios are partially or fully outsourced. Of those that outsource a function of their application landscape, 53% of outsourcing is offshore, and 67% of outsourced applications are mission-critical. The drivers behind this increase in outsourcing are the rise of application volume, coupled with a restriction on internal capacity. Not unexpectedly, the level of outsourcing is lower in Enterprise-sized companies – perhaps as a result of increased rationalization behavior and greater internal capacity. “We outsource because application maintenance is expensive if done in-house,” says the director of web services at a US publishing company. “We are becoming more of a global company and need to provide operation services around the clock. We cannot provide support to our customers from one single US location.”

However, outsourcing the maintenance of a tangled, congested application landscape is more likely to create additional problems than provide a cost-saving solution. In the short term, it may lower IT costs, but inevitably problems will continue to mount. Maintaining today’s complex IT

Does your company outsource any of the hosting or maintenance of applications?

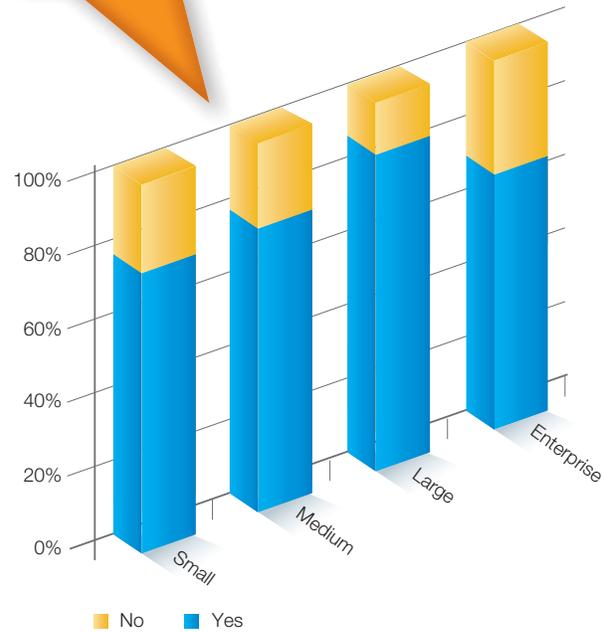
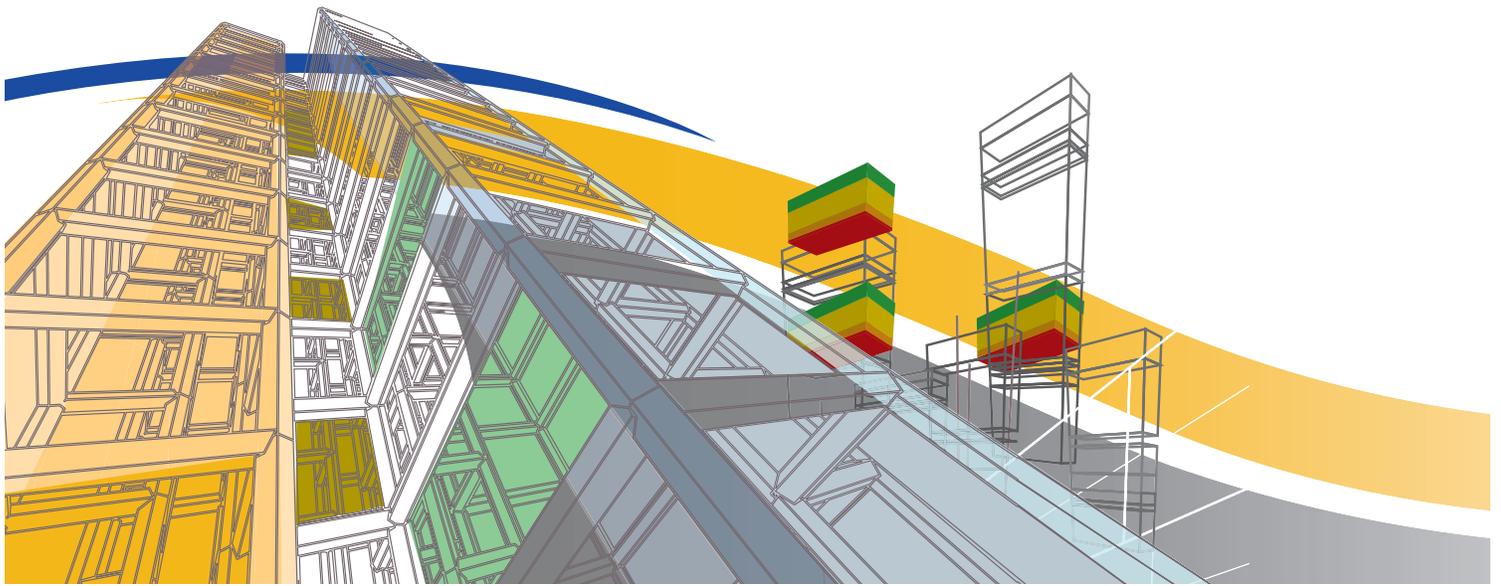


FIGURE 11: The majority of companies prefer to outsource their application maintenance.



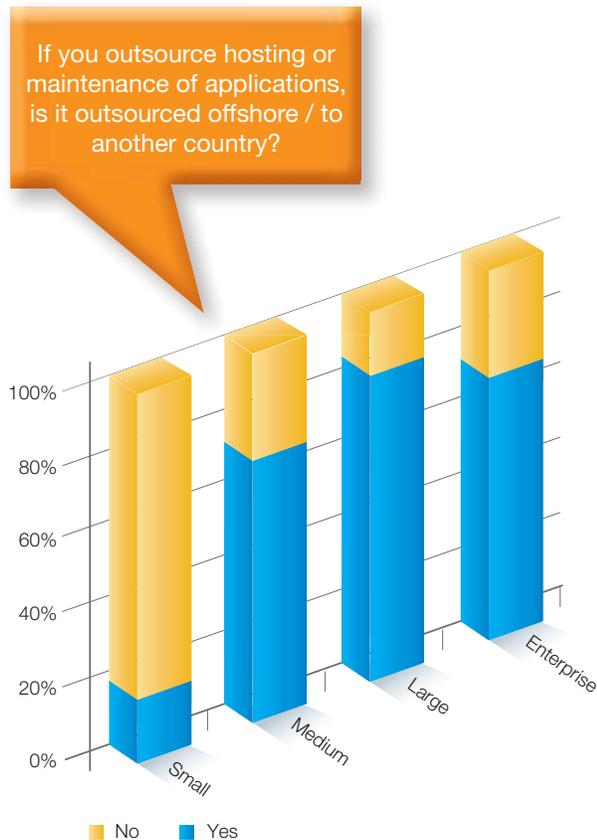


FIGURE 12: The majority of medium, large and enterprise companies choose to outsource hosting and maintenance of applications to other countries.

systems requires specialized, local knowledge often contained within the company. Learning curves could be steep and time-to-market of changes could further decrease. As a result, costs could go up rather than go down even with the outsourcing provider benefiting from economies of scale and optimizing the use of resources. It is therefore crucial to make application rationalization an integral part of the outsourcing engagement: possibly already when preparing the handover of the applications, but certainly also within the lifecycle of the applications once they have been transitioned. Outsourcing then becomes the effective catalyst to applications transformation that could not be found inside the individual organization.

#### Apply True Lifecycle Approach to Applications and Data

If the application is outdated – not being used to support a current business process – and its data is not growing significantly, it should be retired and its data archived. “The way CIOs view the application lifecycle has changed,” says an IT executive at BT. “In the past, we were always focused on building the right application to solve a specific problem – without thinking about the next ten or twenty years.” Archiving the data and de-supporting an application can result in significant cost savings – and not only in lower energy bills or reduced footprint of a retired application. Most importantly, it can free up valuable IT resources – engineers can focus on developing new, innovative IT systems rather than maintaining old, outdated ones. The idea of application retirement needs to be built into all core IT practices. Only with a true lifecycle approach can companies maintain a healthy portfolio and ensure application quality, productivity and business alignment.

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# Conclusions

For decades, the business and IT department have developed solutions without regard for what will happen when these applications reach the end of their useful life. Engineers built applications for specific business problems, patched broken functionality, periodically upgraded core systems, and managed the multitude of redundant applications and large amounts of data that came with each merger or acquisition.

One of the top priorities of today's CIO is to build closer alignment between IT and the business. However to achieve this goal, IT first needs to deal with its own inhibitors to change. We have found that today's application landscape is often more an obstacle to successful business and IT alignment than a testament to it. As a result, first and foremost, IT needs to review its approach to the application landscape and create long-term modernization and rationalization strategies while reaping early benefits as well. Only then can a proper foundation evolve on top of which better alignment between business and IT can flourish.

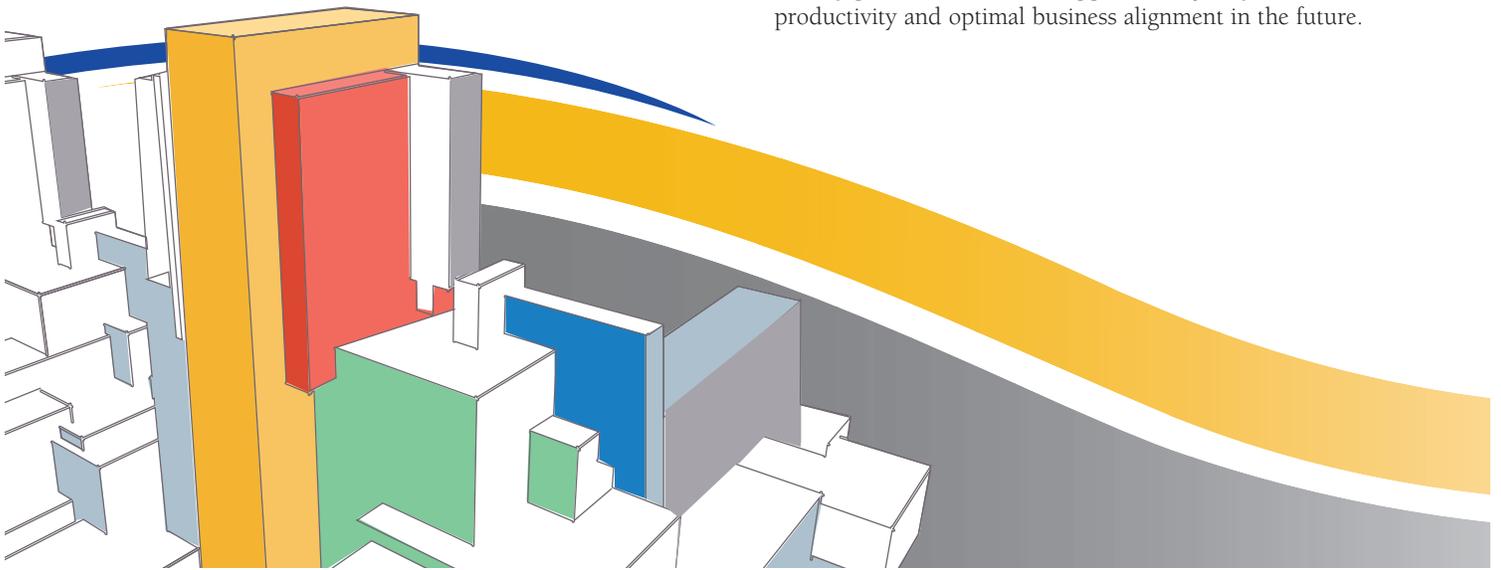
This is nothing less than true "application transformation", and it requires specialized resources, careful analysis and preparation and, perhaps most importantly, boldness and courage. Some of the decisions that need to be made have never been made before – simply because the size and the complexity of the modern application landscape have reached a unique, never-before-seen inflection point.

No matter how difficult, rationalization decisions have to be made. Without focused rationalization, IT runs the risk of being overwhelmed by ongoing maintenance tasks; unable to devote its assets to responding to evolving business needs; and incapable of partnering in innovation and

growth. And we see some organizations taking successful steps towards rationalization. While certain rationalization strategies – new as they are – have not been considered and tested yet, others are viable. In particular, application retirement and data archiving practices can be injected more into the daily IT operations and design efforts. This will help to avoid future problems of cluttered application landscapes and uncontrolled, expensive data growth.

With IT and the business shifting more and more to a full lifecycle approach towards managing the application landscape, it becomes apparent that the end-of-life of applications and data needs to be fully incorporated, not only in the daily operations, but also in the design efforts. By applying this "cradle-to-cradle" approach to applications and data, and targeting retirement strategies and policies already in the design phase, more headroom will be created for better business to IT alignment and then, ultimately, more innovation, value creation and measured impact.

In a sense, IT must build a new city out of the old city where less is more. IT executives must adopt new strategies and practices to develop a true lifecycle approach to review and modernize their application landscapes. Only with this true lifecycle approach can today's companies create a healthy portfolio and ensure application quality, productivity and optimal business alignment in the future.



## Demographics of the Study

For this study, we surveyed approximately 100 CIOs and top-level IT managers in companies of various sizes within a wide range of industries. This included 14 in-depth interviews. Thirty-seven percent of the responding companies are US based, and 63% are located in Europe (Benelux, France, Germany, Spain and the United Kingdom).

## Terminology

All survey recipients and interviewees were provided with the following set of definitions to ensure a common understanding of the key terms used in this report.

**Application Software:** (Source: Wikipedia.org) Application software is computer software designed to help the user perform specific tasks. Examples include enterprise software, accounting software, office suites, graphics software and media players. Application software is contrasted with system software and middleware, which manage and integrate a computer's capabilities, but typically do not directly apply them in the performance of tasks that benefit the user.

**Application Transformation:** Application transformation is an ongoing practice that requires companies to rethink their approach to application lifecycle and incorporate retirement and data archiving into their operations.

**Application Retirement:** Companies typically view the application lifecycle as a three-step approach: build, deploy and maintain. But the fourth step – retirement or end-of-life – is an equally essential part of the lifecycle and requires its own building blocks and careful assessment. If the application is outdated – not being used to support a current business process and its data is not growing by any significant means – it should be retired and its data archived.

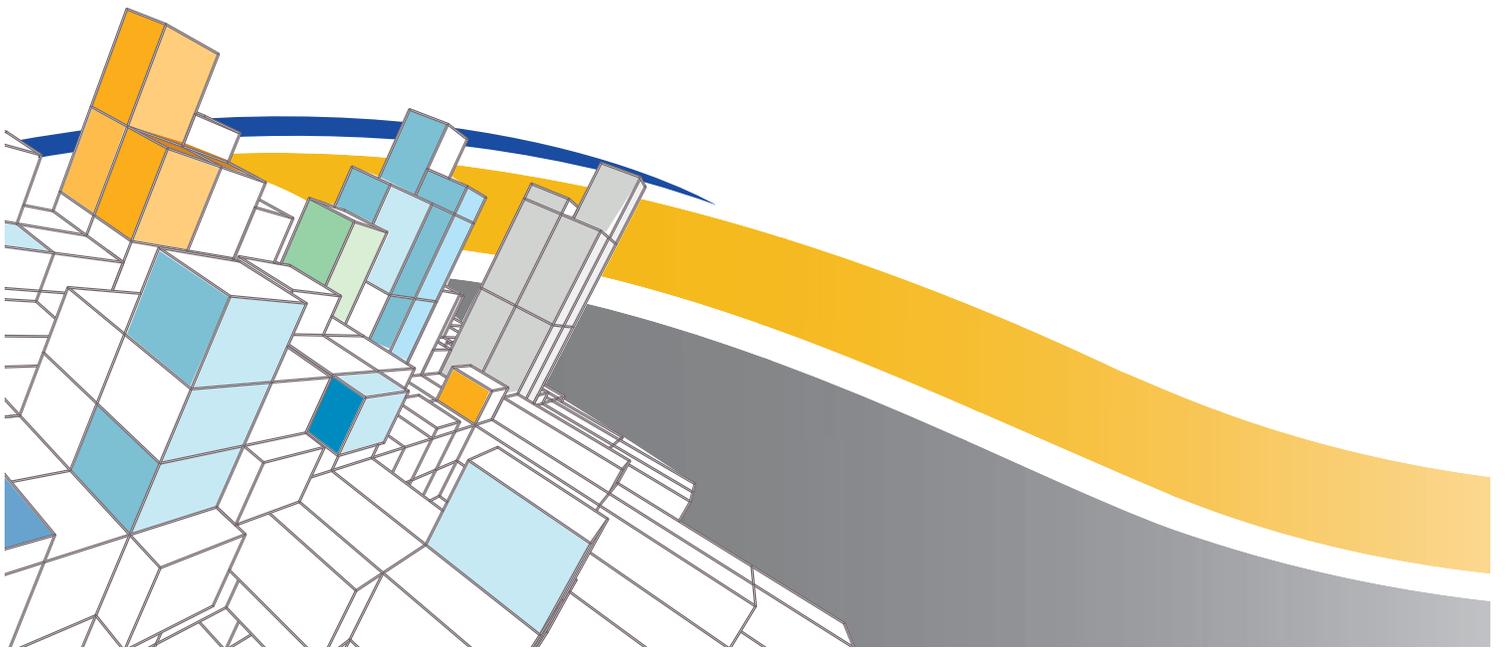
**Company Size:** For the purpose of this report, we classified all respondents into four categories: small businesses (under 1,000 employees), medium-sized companies (between 1,000 and 5,000 employees), large companies (between 5,000 and 10,000 employees) and enterprises – global corporations with anywhere from 10,000 to over 100,000 employees.

# a knowledgements

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We value your comments and ideas. We welcome you to contact us regarding any questions you might have concerning the 2011 Edition of the Application Landscape Report.

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