How Leading Companies Have Made a Smooth Migration to the Cloud

Market Pulse

BENEFITS, INSIGHTS, AND BEST PRACTICES FROM A GLOBAL SURVEY AND PERSONAL INTERVIEWS WITH IT EXECUTIVES WHO HAVE DONE IT

For many companies around the world and across industries, it's no longer a question of whether to adopt cloud applications. Instead, it's a question of which applications are best delivered as cloud services and how to migrate from current on-premises systems.

Yet it's daunting to consider a cloud migration, especially for core business applications such as financial management, human resources management, and payroll. IT leaders are looking for peers who have already made the transition from on-premises to the cloud and who can now share the knowledge and best practices gained from that experience.

In a global study, IDG took an in-depth look at the cloud migration experience for midsize to enterprise-level companies in technology, financial services, professional services, insurance, manufacturing, retail, healthcare, utilities, professional services, and transportation. Through an online survey of nearly 450 IT leaders in 17 countries and 10 individual interviews, respondents shared their benefits gained, practical steps for the migration, and best practices learned.

This paper presents the collective wisdom uncovered by the IDG study. IT leaders can apply these insights to planning their migration of key business applications to the cloud.

» What's Driving the Move to the Cloud?

The emergence of cloud technology is giving IT departments many reasons to consider migrating applications from long-established on-premises deployments, and these reasons include business as well as technical drivers.

Cost Savings

The cloud is widely viewed as a less expensive option for running applications, and nearly half of the survey respondents cited lower operational costs as a driver. Cost savings are expected primarily because the company would no longer incur the capital and operating expense of in-house servers as well as related infrastructure and staffing.

However, not all of the survey respondents anticipated cost savings from their cloud migration, and when they did, they projected that those savings would come only over the long term. This expectation is likely formed by the costs of the migration itself, which are offset later, when the operating costs of a cloud application prove to be lower than those of an on-premises application deployment.

A helpful way to evaluate these costs was provided in one of the in-depth interviews, with the IT director for a retail company. "The business case must stack up to ensure that the overall costs of migrating from on-premises to the cloud are sensible. There must be some savings, maybe over three to five years, that you have by migrating to the cloud. It is pointless to think about delivering an application that is more expensive in the cloud just to be in the cloud. There need to be some operational savings."

Competitive Advantage

Several of the IT leaders noted that their competitors have already moved to the cloud. This move sparked the interest of the leaders' companies in maintaining parity

workday.

CIO FROM IDG

and using cloud technology for competitive advantage. "If the competition is already going to the cloud, we need to catch up. We need to minimize that competitive advantage gap," said the risk director of a financial services firm.

Improved Application Availability

The cloud can support higher levels of 24x7 application availability than might be cost-effective to implement in an on-premises data center. In turn, this availability frees IT staff to support greater business agility and shorter time-to-market for business activity. "We have hired more people, because we have grown. We were able to grow because we moved to the cloud," said the engineering manager of a media company.

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Easier Compliance

IT must comply with the growing mix and complexity of regulatory requirements such as the European Union's General Data Protection Regulation (GDPR). These regulations place a big burden on IT, especially for managing data access and storage. The compliance challenge grows as companies serve customers, start operations, and form partnerships in more countries. This challenge may be why 37% of the respondents cited compliance as a key driver for moving core business applications to the cloud.

Cloud service providers offer experience and expertise in regulatory requirements for general business activity as well as specific industries such as finance and healthcare. These providers also make the continuous investment necessary to maintain key certifications of their applications and data centers, investments that may be too expensive for a company to maintain in its own environment.

As the solution architect for a life sciences company noted, "We had hit the wall in terms of accommodating all those compliance requirements…. With the cloud, we can move the data closer to the region of consumption. Otherwise, it's basically cost-prohibitive to satisfy those compliance regulations and it becomes a nightmare to maintain."

Standardized Applications

The cloud enables IT to benefit from the reduced cost and management burden that is possible when a standard application can be used across business units, languages, and geographic regions. And because the cloud vendor is responsible for delivering the most current version, IT avoids the headaches of rolling out software updates and users can take advantage of the newest application features.

"You always have to make sure the application is patched, and sometimes patching an application is not an option, because the business requires certain uptime and you cannot afford to bring the environment down," said the life sciences solution architect.

Simpler Integration

When a company migrates business systems to the cloud, it isn't just the application that moves—it's also the associated data. That integration to a single-cloud system is easier because that company just has to connect and integrate to one data model -- so if transformation is needed, it's done just once and there isn't a need to normalize across multiple data models. Plus, the company just has to manage one end-point, so if there are changes on the third-party side, the company doesn't have to test, re-code, or reconfigure multiple integration points. "Having one vendor to reach out to for the integration was definitely of great value for us in making this move," said the financial services risk director.

System Consolidation

The central infrastructure and data repository offered by the cloud enable IT to consolidate multiple systems and manual processes, delivering a more coherent technology strategy for the business. Consolidation of systems and processes was mentioned by 40% of the survey respondents as a top reason for choosing cloud applications.

As the chief architect in a large bank described it, "There was an opportunity for a lift-and-shift type of consolidation and a chance to reengineer things on the cloud side." He also noted that retirement of legacy applications provides an opportunity to consolidate and improve systems.

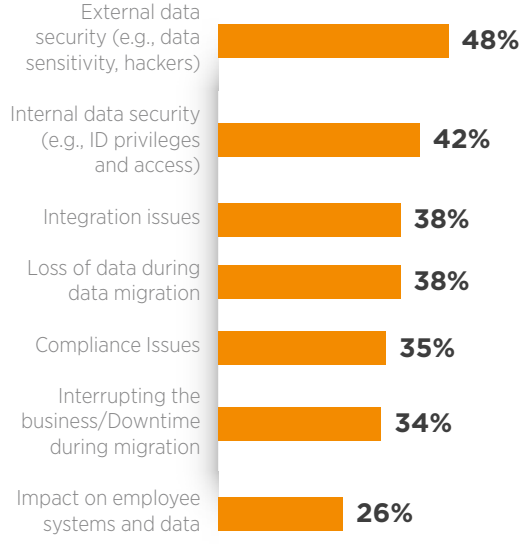
» Perceived Cloud Risks and Obstacles

Even with the strongly appealing benefits of a cloud migration, the IT decision-makers surveyed by IDG also considered the potential risks and obstacles.

Uncertainty Security was listed first among the perceived risks, but some of the IT decision-makers indicated that they feel that security measures are better in the cloud than in many on-premises deployments.

Other risks noted by respondents include the potential inability to integrate with other applications or data feeds, the vendor's ability to meet expected application performance levels, and about compliance issues.

Risks of Moving Workloads to the Cloud



Source: IDG Research

Companies represented in the interviews discovered that these risk concerns can be alleviated by careful planning practices and making an incremental migration. "We mitigated risks by doing a pilot. We used the cloud application in a small area of the business for a period of time that was not critical. We then gradually used the cloud system more and more and migrated more and more of the data across," said the retail IT director.

THE GLOBAL VIEW: Cloud Risks and Obstacles

Although external threats to data security exist around the world, fewer than half of the respondents in Europe, North America, and Hong Kong/Singapore identified security as a risk for migrating workloads from on-premises systems to the cloud.

Also of concern to IT leaders were internal obstacles that would need to be addressed before the cloud migration could begin. Among the obstacles identified:

- **The amount of time** required for implementation of the new cloud application and its potential for interrupting business activity
- **Assuring data sovereignty** and secure data access
- **Getting management acceptance** of the initial costs of the migration and the length of the payback period
- **Requirements for training** employees and change management activity
- **Connecting the new cloud** application with established work processes

Another obstacle: the culture shift that comes with relinquishing application control. An IT director in the retail sector noted, "We had to make sure that we were comfortable that we can relinquish some of our application control."

Perceived obstacles to cloud migration vary around the world:

- For North American and European companies, the initial migration cost and payback period are viewed as higher obstacles.
- Companies in Hong Kong and Singapore face a lack of in-house IT skills.
- Gaining support of senior management is a higher obstacle for companies throughout Asia.

» How the Cloud Migration Decision Is Made

Survey respondents indicated that the decision-making process for a cloud migration typically included representatives from the different regions, business units, and levels within the organization. On the line-of-business side, input was received from leaders in the relevant business functions. In most cases, the decision to embark on a cloud migration had been made by the CIO or the CTO, based on IT's strategic direction.

"Obviously, the HR executives and the CFOs who were responsible for those applications were involved. But the decision was a joint effort between many business and technical groups. Enterprise architecture was involved, along with the legal, compliance, supply chain, vendor management, and information security teams," said the chief architect for a major bank.

Once the organization is comfortable with the decision to migrate an application to the cloud, the next question arises: Which is the right vendor for us? IDG survey respondents reported that four factors were important for selecting a vendor:

- **Vendor trust and track record.** The new vendor's experience and reputation were important factors for establishing a company's trust in their selection. Having acceptable application performance levels and adequate performance monitoring to ensure that the promised service-level agreements (SLAs) could be met was also important for vendors to establish trust.
- **International and industry expertise.** Aspects such as a global presence and relevant industry experience were often important criteria in the vendor choice.
- **Solution architecture.** Ease of integration with other applications and data feeds—whether hosted elsewhere in the cloud or still on-premises—was a critical requirement for the new application. Browser compatibility was also frequently mentioned as an integration concern.
- **Solution value.** Vendors were viewed more favorably if they could provide better application performance and improve the business with a product that offers an enhanced feature set or process.

Interestingly, the technology that is used and the cost of a vendor's solution were not perceived by respondents as strong differentiators. "We don't see the cloud from a cost savings perspective," said the engineering VP of a financial firm. "It's more about agility, speed to market, maintenance, and keeping compliance requirements up to date in the cloud environment."

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Companies that have completed the cloud migration do track costs over time to define overall return on investment (ROI), after accounting for initial costs. Respondents indicated that the ROI assessment should consider a realistic time frame for calculating recovery of migration costs and evaluating ongoing operational costs.

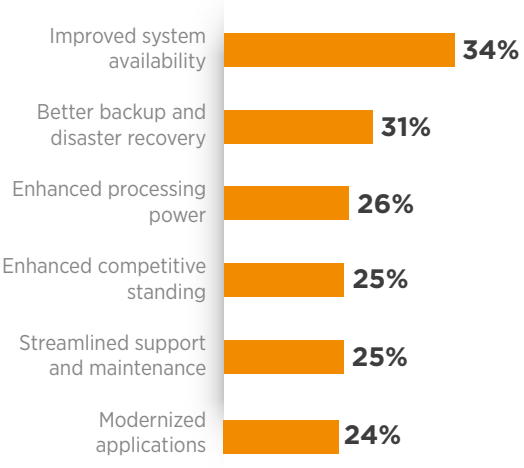
Application performance. Part of the vendor selection was based on two categories of defined metrics for application performance. In the first category are SLAs that measure application availability (uptime/downtime) and performance (response time). IT leaders believe that migrating to the cloud should bring better application performance and availability or, at the least, avoid degradation. Provider SLAs need to be measured and met, and any missed SLAs should be tracked carefully.

The second category covers the number of support issues or service tickets, comparing the cloud with on-premises applications. Survey respondents expected the number of support issues to show a downward trend once the cloud application was in production.

» The Implementation Process and Timeline

For their overall application strategy, most of the IDG survey respondents follow a technology road map of less than 24 months. Their experience shows that cloud migrations were completed well within that time frame, with more than 60% completed in six months and nearly all in 12 months or less. These time frames met or exceeded the respondents' expectations. Vendors were on-site for most or all of the migration work, which the IT leaders believed was important for timely completion.

Benefits of Migrating to the Cloud



Source: IDG Research

» Recommended Best Practices

The leaders interviewed by IDG identified two categories of best practices for a cloud migration: garnering internal support and engaging the application vendor.

Early involvement and buy-in throughout the organization set the stage for a successful migration. In particular, buy-in from company executives creates the top-down commitment that enables resources and financial support for the migration project.

Involvement by line-of-business leaders ensures that the new cloud application meets business needs, sets realistic expectations for the migration activity, and creates a groundswell of support for the new approach. Business user support also enhances training while minimizing the need for an extensive change management effort. In addition, working with teams for compliance, security, audit, and risk reduces concerns and issues related to the compliance of the cloud application and the vendor infrastructure.

Several of the IT leaders discussed the importance of auditing and preparing application data before migrating it to the cloud. As the media company engineering manager described it, "Before you migrate to the cloud, you really want to do a proper audit of your data and figure out what you really understand about your own data. For example, what does it mean to have a record of data? How many systems touch this data every single day?"

The need to conduct extensive testing of the cloud application was noted in several interviews. This testing was seen as essential for successful migration and to verify that the new application would meet business requirements. "The benefit of more testing is that we would have raised fewer support issues and would have had a better rollout," said the cloud manager of a manufacturing company.

Respondents to the survey also identified several valuable best practices for the migration project and for minimizing the impact on business operations, as shown in this table:

Overall Migration Best Practices	Best Practices to Avoid Disrupting Business Operations
• **Involve** line-of-business leaders from the beginning. • **Be transparent** with other business stakeholders. • **Get buy-in** and sign-off from senior management. • **Generate** business user support to streamline change management. • **Get expertise** from an outside party. • **Leverage** vendor expertise early and often throughout the migration process. • **Visit** the cloud provider's data center or customer experience center and speak to the operations and trust teams. • **Work with IT** and DevOps to implement a plan that includes practices such as blue-green deployment.	• **Articulate** a business requirements document. • **Audit** data and prepare it properly for migration. • **Develop** a user training program. • **Educate** senior managers to justify the investment. • **Employ** a global transaction and cutover strategy. • Monitor application performance. • **Test** the system continuously, starting with a pen-and-paper test. • **Have vendors respond** to questions from the business units. • **Develop** a plan for how project management will continue once the vendor team has completed on-site work.

Benefits Gained from the Cloud Migration

The benefits and results reported by the companies surveyed indicate that many had achieved their goals for moving to a cloud application.

The first result measured for many companies is the payback period for migration costs. Most respondents expected a two-year payback period at most, although nearly 40% predicted payback within 12 months.

IT teams are now seeing the advantages of shifting accountability for the application to the cloud provider and reducing the internal burden of application maintenance and support.

Conclusion

Perhaps the most revealing question for any big decision is, "Would you do it again?" Among the IT leaders interviewed for the IDG survey on migrating to cloud applications, the answer was "yes."

This affirmation of cloud applications reflects both the push of business drivers and the pull of realized benefits. The media company engineering manager described the drivers as, "We realized we were growing fast and needed to go to the cloud. We were not able to scale with our on-site data center, it was costing too much in hardware, and it was not an area of expertise for us."

The bank data architect summarized a key benefit gained by many companies in this way: "It's letting the cloud providers deal with the support aspects and our personnel can be redeployed to work on more strategic stuff as opposed to just lights-on work."

As the IDG research shows, by learning from the experience of companies that made the journey before and applying their best practices, IT leaders can gain confidence for migrating their own core applications to the cloud.

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