The Economic and Strategic Benefits of Cloud Computing

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Does SaaS save money? Based on our latest survey, we find organizations that have largely migrated to the cloud spend less on IT as a percentage of revenue and on a per-user basis. Savings come not only from a reduction in data center spending, but also from lower IT personnel costs. Moreover, because cloud-based systems reduce the effort needed for ongoing support, cloud adopters tend to devote a higher percentage of their IT spending to new initiatives. The cost savings, combined with strategic benefits in speed, scalability, and agility, argue in favor of organizations moving aggressively to the cloud.

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The Economic and Strategic Benefits of Cloud Computing

Does SaaS save money? Traditional vendors of IT products and services sometimes argue that systems deployed on-premises are more cost-effective over the long run than their cloud-based counterparts. They claim that while licensed software may have higher acquisition costs, they are amortized over a fixed time period in contrast to software-as-a-service, or SaaS, subscription fees, which continue for the life of the offering in the form of recurring per-user fees.

Cloud providers, on the other hand, argue that the up-front savings are significant and that, in any event, the real benefits of SaaS are not in direct cost savings but in the strategic advantages that the cloud brings to the organization.

Which side is correct? The answer is not an academic exercise. For organizations to make intelligent decisions regarding the cloud, it is important to understand the relative costs of SaaS vs. on-premises systems.

Based on our survey of organizations that have fully or largely migrated to the cloud, we find that such organizations save on average more than 20% in IT spending as a percentage of revenue. Savings measured on a per-user basis are 16%. Savings come not only from a reduction in data center spending, but also from lower IT personnel costs. Moreover, because the cloud reduces the effort needed for ongoing support, cloud users are able to devote a higher percentage of their IT spending to new initiatives. The cost savings, combined with strategic benefits in speed, scalability, and agility, argue in favor of organizations moving aggressively to the cloud.

In this report, we describe the 13 respondents to our survey in terms of their industries and cloud portfolios. We then compare their high-level IT spending metrics against our standard industry benchmarks, document the savings they achieved, analyze their spending line items, and substantiate their greater spending on innovation as opposed to ongoing support. We then outline the strategic benefits of cloud computing beyond cost savings, supported by

Savings come not only from a reduction in data center spending, but also from lower IT personnel costs.

feedback from the respondents. We conclude this study with recommendations on developing a strategic road map for full migration to the cloud.

Searching for Organizations That Live in the Cloud

Since 1990, Computer Economics has been surveying IT organizations in the U.S. and Canada in order to publish our annual *IT Spending and Staffing Benchmarks* study. Through this quarter-century of research, we understand what businesses spend on information technology by industry sector and organization size. We also collect detailed benchmarks on how organizations spend their IT budgets and how they allocate IT personnel to various job functions. The metrics we publish are used by IT organizations and consulting firms to benchmark IT spending and staffing.

This year, in order to analyze the economic characteristics of cloud computing, we created a special sample of IT organizations in our survey that rely on cloud systems for a significant portion of their application portfolio. To gain further insight, we gathered additional information from these respondents to better understand their experience with cloud computing. We then compared each respondent's IT budget and staffing levels with each respondent's industry benchmarks, and analyzed the results.

In conducting our cloud study, we are not comparing the cost of individual cloud-based systems vs. similar systems deployed on-premises. Rather, we are comparing the IT spending characteristics of organizations that have moved largely to the cloud to our industry benchmarks. If an organization moves only a single system to the cloud, it does not reduce the size of its IT infrastructure or data center support staff in a significant way. The enterprise will still need data centers and related personnel to support systems that remain on-premises. Therefore, to truly determine whether SaaS saves money, we assess IT spending by organizations that have moved all or most of their applications to the cloud.

As expected, it is not easy to find a large number of such companies. To be sure, there are many companies in the range of five to 10 employees, such as many small professional services firms, that have no IT infrastructure on-premises. But our benchmarks are not easy to apply to such small organizations. We generally require companies to have at least $50 million in annual revenue to participate in our study. Finding larger organizations that have moved most of their systems to the cloud is not an easy exercise.

By lowering our size requirements a bit, however, we were able to obtain responses from 13 organizations with more than $40 million in annual revenue that had moved a large percentage of their systems to the cloud, as shown in Figure 1. They come from a variety of industries, including manufacturing, high tech, life sciences, construction, automotive, wholesale distribution, professional

In conducting our cloud study, we are not comparing the cost of individual cloud-based systems vs. similar systems deployed on premises.

services, online media, and IT services businesses. They are not all small companies; the largest is an organization with $2.5 billion in annual revenue.

Demographics of Cloud Survey Respondents

Number of Respondents	13
Geographic Location	U.S. and Canada
Annual Revenue	$40 million to $2.5 billion
Employees	135 to 12,000
Industry Sectors	Manufacturing, high tech, life sciences, construction, automotive, wholesale distribution, professional services, online media, and IT services

Source: Computer Economics, 2016

Figure 1

They are not all small companies; the largest is an organization with $2.5 billion in annual revenue.

These organizations are described more fully as follows, along with their cloud portfolio.

1. A construction company running Oracle Sales Cloud for CRM, and Autodesk's Buzzsaw in the cloud. The firm also uses Microsoft's Office 365 as well as Microsoft's Azure as a cloud infrastructure service.

2. A manufacturer of industrial equipment running Salesforce.com for CRM; Workday for HR; Rootstock for ERP; Google Apps for email; and Insperity's ExpensAble for travel and expense reporting. The company has standardized on the Salesforce.com platform for custom development.

3. A manufacturer that runs all of its business-critical systems in the cloud, including SAP Business One as a hosted service, and Microsoft Office 365.

4. An automotive supplier running Plex for ERP as well as its help desk systems in the cloud.

5. An IT services provider that runs all of its corporate applications in the cloud, specifically NetSuite for ERP, Salesforce for CRM, and Workday for human capital management. The firm uses Microsoft Office 365 for email and collaboration along with Microsoft Azure for file services. The only on-premises application is a data warehouse used for

consolidation and reporting. To benchmark properly with our industry standards, we did not include IT spending for the firm's external service delivery systems.

6. A management consulting firm running NetSuite for ERP and Hubspot for CRM. The firm also runs Microsoft SharePoint and Google Apps in the cloud.

7. A plastics manufacturer running Plex as its ERP system, along with other cloud systems, including Infor EAM (formerly Datastream 7i) for maintenance and repair operations; Saleslogix for sales-force automation; and Ultimate Software's UltiPro for human resources. The company also utilizes a third-party cloud infrastructure provider and leverages the Salesforce.com platform for custom development.

8. A life-sciences manufacturer running Microsoft Dynamics GP in the cloud as its ERP system; StayinFront for CRM; Google Apps for email, file sharing, and calendaring; and Okta for security. The firm also leverages Amazon and NaviSite for cloud infrastructure.

9. A high-tech manufacturer running NetSuite as its ERP and CRM system; Box.com for file sharing and collaboration; Autodesk PLM360 for engineering applications; and Microsoft Office 365 for corporate email and office productivity applications. The company also uses Amazon for other cloud infrastructure needs.

10. A systems integrator running all of its applications in the cloud, including Salesforce.com for CRM; FinancialForce for professional services automation; Workday for human resources; Google Apps for office productivity; Okta for security; Boomi for systems integration; and DocuSign for electronic signatures. This company also makes use of Amazon's cloud infrastructure, and does development of custom systems for its own use on Salesforce's Force.com and Heroku platforms as well as Google's AppEngine.

11. An online content provider that runs the following SaaS applications: Salesforce.com for CRM; FinancialForce for accounting systems; Operative, DoubleClick for Publishers, and Yieldex for ad management; Coupa for spend management; Paylocity and Vana for HR systems; and OneLogin for identity management. The company also does its own development on Salesforce.com's Force.com platform. To benchmark properly with our industry standards, we did not include IT spending for the organization's digital delivery systems.

12. A manufacturing firm with Kenandy for ERP and Salesforce for CRM.

13. An IT services firm running NetSuite for ERP; FinancialForce for accounting; Workday for human capital management; and ServiceNow for IT service desk. The firm also runs a variety of other cloud applications, including EchoSign, Marketo, Apttus, Aha! JIRA, and BoldChat. To benchmark properly, we did not include IT spending for the organization's digital delivery systems.
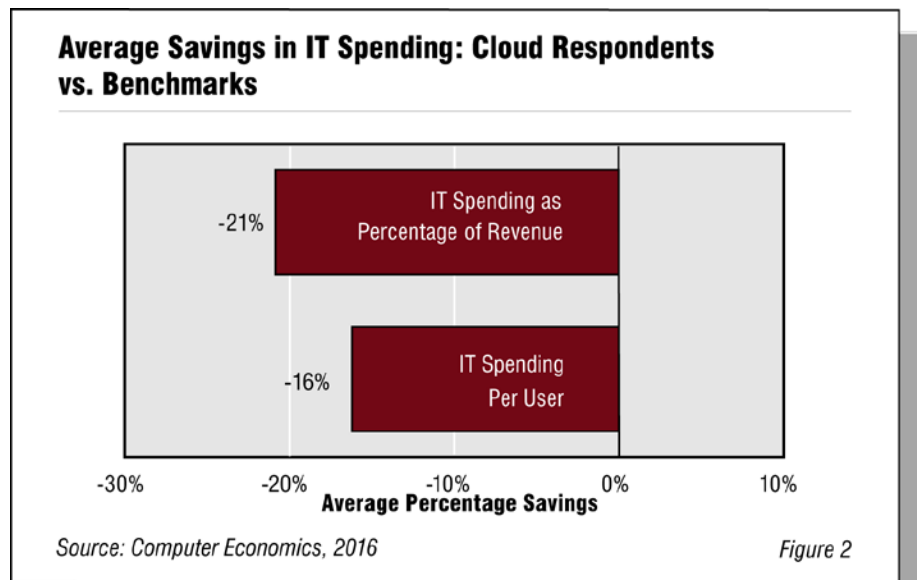
As noted, these 13 organizations come from a variety of industry sectors and are running a variety of cloud applications. What they have in common is that they are entirely or heavily invested in cloud computing for their business-critical systems.

For simplicity, in the remainder of this study, we refer to these organizations as "cloud users" or "cloud respondents."

Cloud Users Enjoy Significant Savings

Our first exercise compares overall IT spending levels of cloud users against our industry benchmarks. Because IT spending levels are industry-specific, we need to compare each organization's IT spending against the median for the respondent's industry and calculate the difference—positive or negative. We can then average the differences across the sample of cloud users.

Figure 2 shows these results for two metrics. On average, cloud users spend 21% less on IT as a percentage of revenue and 16% less on IT on a per-user basis than other organizations in their sectors.
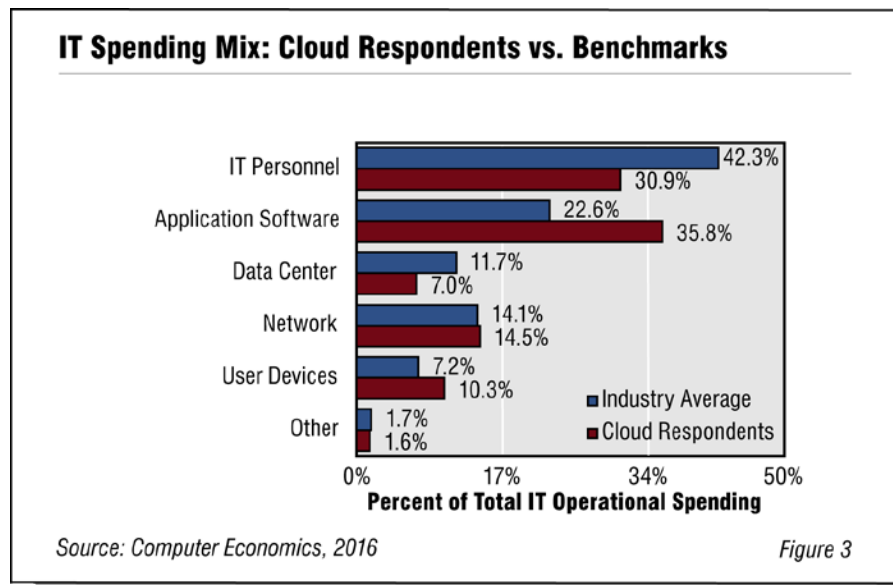
Our first exercise was to compare the overall level of IT spending for the cloud users against our industry benchmarks.

Average Savings in IT Spending: Cloud Respondents vs. Benchmarks

- -21% IT Spending as Percentage of Revenue
- -16% IT Spending Per User

Average Percentage Savings

Source: Computer Economics, 2016

Figure 2

Note here that we are benchmarking IT operational spending, which includes depreciation for capital expenses as well as all IT personnel, services, and technology spending that has not been capitalized. While a software subscription would be an operational expense, software acquisition costs are generally depreciated.

Savings Go Beyond Data Center Spending

To better understand where the savings come from, we next compare the line-item mix of IT spending for cloud users against the mix in our industry benchmarks. In this comparison, we roll up the detailed IT budgetary line items into larger categories, as shown in Figure 3.

The analysis produces the following findings:

- As expected, cloud users show a significant reduction in data center spending. Our industry average shows 11.7% of the IT budget allocated to data center spending, while cloud users only spend 7.0% of their IT budget on data center infrastructure. This percentage is not zero because many of our cloud users still have some on-premises systems. Data center spending includes all data center hardware and software, facilities, energy, and disaster recovery expenses. Cloud providers can deliver these services less expensively because they pool computing resources for many customers, realizing economies of scale that few organizations can attain on their own.

As expected, cloud users show a significant reduction in data center spending.

- Cloud users also achieve significant savings in IT personnel expenses. IT staff compensation is the largest line item in the typical IT budget, at 42.3%. But cloud users only allocate 30.9% of their IT spending to personnel. These savings primarily come from reduction or elimination of data center staff as well as improved productivity of application personnel who can work with more productive application platforms, such as platform-as-a-service (PaaS). Furthermore, because SaaS minimizes the burden of version upgrades, application personnel are more productive and able to focus on higher-value activities, such as implementing new functionality and business process improvement.

  As noted by a vice president of IT for one of our cloud respondents: "Cloud computing allows us to shift our staffing to more business-engaged business analysts, business intelligence, PMO staff—instead of system admins."

- The allocation for end-user devices, such as desktop and laptop computers, smartphones, tablet computers, and printers shows an increase for cloud companies, at about 10% of the IT budget vs. about 7% for our industry benchmarks. This may be because companies that are forward-thinking in moving to the cloud may also be forward-thinking in their use of mobile devices. Or it may simply reflect the industry mix of our cloud respondent sample.

- There is virtually no difference in IT spending for networks, which is at the 14% level. This finding is not surprising. Employees and facilities need connectivity to systems, whether they are on-premises or in the cloud. Network spending in our study includes all network infrastructure, network carrier expenses, and IT security spending.

- Application software is the one line item that shows a significant increase, at nearly 36% of the IT budget, compared with about 23% for our industry benchmarks. This is not surprising. With cloud systems, the cost of on-premises infrastructure and personnel to support it shifts to the cloud vendor in the form of application subscription fees. Essentially, IT spending is moving from a low-value line item, infrastructure, to a high-value line item, business applications.

"The business value for me is in not having to hire IT staff to work in the data center," an IT executive in the high-tech sector commented in a written response. "Better to have them closer to the customer, shifting IT personnel

spending from systems and database administration to business analysts or project managers so that they can focus on delivering business value where it counts."

Because most of our cloud respondents have not yet eliminated all of their on-premises systems, Figure 3 represents a conservative view of this shift in value. The more companies move to the cloud, the more IT spending is focused on higher-value services to the business.

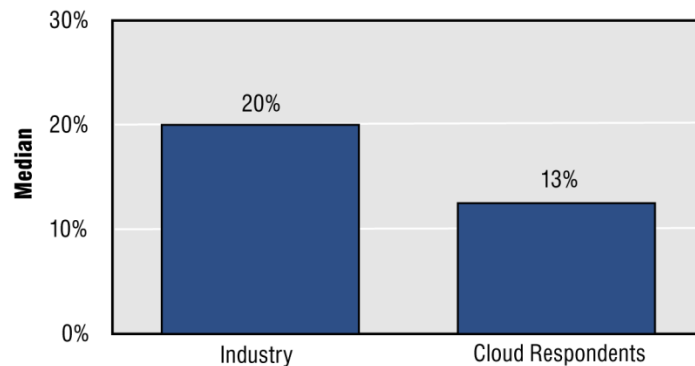## Cost Savings From Fewer Customizations

Cloud applications may lead to lower overall IT spending for another reason: organizations tend to customize cloud systems less often than they do traditional licensed software. Figure 4 shows that for the median cloud respondent in our survey, custom software comprises 13% of the application portfolio. The industry median for this metric is 20%.

From our experience in benchmarking IT organizations, we know that customization of commercial software is a major driver of IT spending. For example, our *ERP Support Staffing Ratios* report shows that ERP support personnel are 20% more productive in organizations where ERP systems have few or no customizations. The lower rate of customization for cloud systems may be, therefore, another factor that contributes to savings in overall IT spending.

Modern cloud applications generally provide capabilities for the customer or implementation partner to tailor the software to specific customer needs. In some cases, customers can build extensions or entire custom applications using the vendor's PaaS capabilities. Because such customizations or extensions generally carry forward with new versions of the system, they do not drive the same level of support requirements as is the case with modifications to traditional on-premises software.

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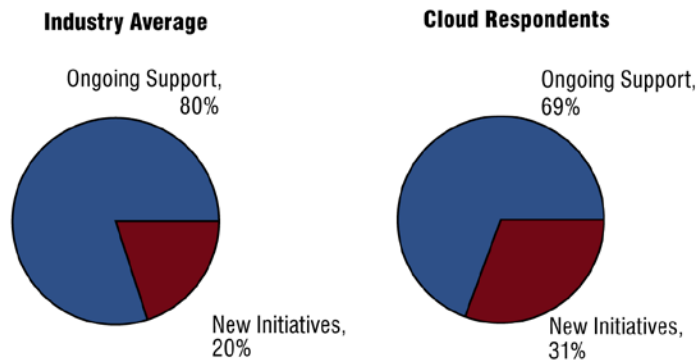
Custom Software as Percentage of Application Portfolio

Source: Computer Economics, 2016

Figure 4

Cloud Users Spend More on Innovation

Our analysis indicates cloud users spend a greater percentage of their IT budgets on new initiatives and less on ongoing support of existing systems. Figure 5 shows that organizations across all industries currently spend about 80% of their IT budget on ongoing support, leaving only about 20% for new initiatives. Cloud users, on the other hand, only allocate about 69% of their IT budget for ongoing support, leaving about 31% for deploying new systems and capabilities.

Not only are cloud users able to spend less on IT overall, but what they do spend is more heavily weighted toward innovation.

IT Spending on Ongoing Support vs. New Initiatives

Source: Computer Economics, 2016

Figure 5

So, not only do cloud users spend less on IT overall, but what they do spend is more heavily weighted toward innovation.

"Years ago, innovation meant large projects with the hope that value could be delivered; but with cloud systems, you can turn something on fairly quickly either as a demo system or an actual purchase," an IT executive for a cloud respondent stated. "That helps the innovation business case for buying new software because it's delivered quicker, you know what you're going to get, and it's lower risk if you decide not to renew."

The implications of this finding should not be underestimated. In today's economy, few organizations give a blank check to the IT department. Yet user demand for new systems and IT capabilities continues to increase. In addition, business leaders demand new systems, better analytics, mobile deployment, and a whole host of capabilities to help them better compete in today's global economy. If IT budgets are limited, where can IT leaders find the resources to satisfy these demands? The only answer is to become more efficient in how the IT organization supports existing systems. Our research finds that cloud computing accomplishes this objective.

"Moving steadily toward a cloud-centric IT architecture has the effect of shifting a greater percentage of IT spending toward innovation," another cloud respondent wrote. "Cost savings are significant, but the larger benefit is greater productivity generated by each dollar of IT spend."

Managed Services Do Not Deliver Cloud Savings

It is tempting for traditional vendors of on-premises systems to offer managed services as a way for customers to "move to the cloud." Instead of selling a perpetual license, traditional vendors offer to sell the software on a subscription basis and host it in their own, or a partner's, data center. The software is essentially the same system as what they deploy in the customer's data center. The only significant differences are that the vendor (or partner) takes responsibility for day-to-day operation of the system, application management, and periodic upgrades. These services may be billed separately or may be bundled with the subscription price of the software.

Managed services are really a combination of several types of IT outsourcing, specifically:

1. Data center and database administration outsourcing to administer the infrastructure

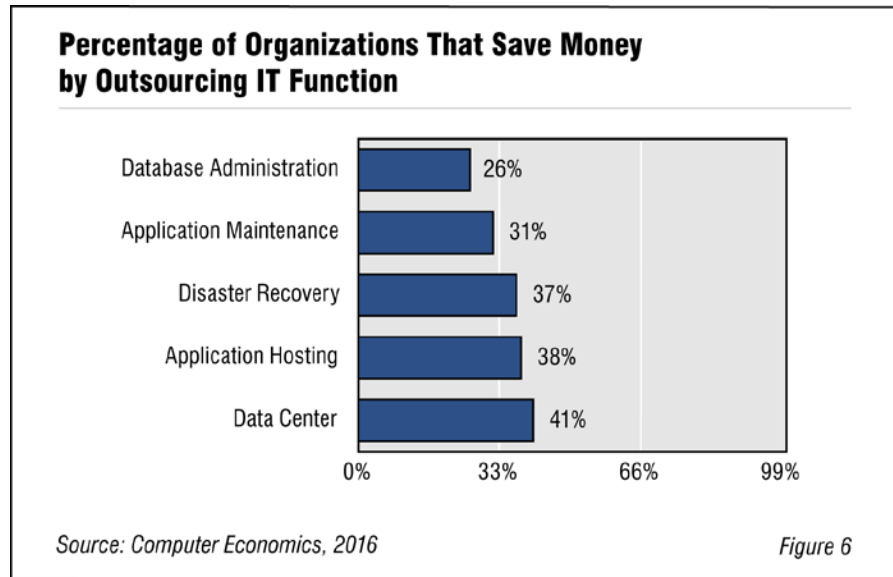2. Application hosting for day-to-day operation of the application

It is tempting for traditional vendors of on-premises systems to offer managed services as a way for customers to 'move to the cloud.'

3. Application maintenance outsourcing to apply patches and version upgrades

4. Disaster recovery outsourcing to ensure the system can be recovered in the event of an unplanned outage

The Computer Economics *IT Outsourcing Statistics* report documents customers' economic experience with 11 types of outsourcing, including those outlined above. As shown in Figure 6, the majority of customers do not experience cost savings with the outsourcing of these IT functions. Only 26% of respondents report that outsourcing of database administration saves money. The results for application maintenance outsourcing (31%), disaster recovery outsourcing (37%), application hosting (38%), and data center outsourcing (41%) are not much better.

Our research does show that, generally, customers have better experience with the service levels for outsourcing these functions. For example, only 26% of respondents report saving money with database administration outsourcing, but 32% report that service levels are better than what they deliver in-house.

Therefore, there may be good reasons for an organization to use a managed services provider, but saving money is usually not one of them.

Percentage of Organizations That Save Money by Outsourcing IT Function

IT Function	Percentage
Database Administration	26%
Application Maintenance	31%
Disaster Recovery	37%
Application Hosting	38%
Data Center	41%

Source: Computer Economics, 2016

Figure 6

Our survey found speed is the top-ranked benefit in the eyes of cloud-based system buyers.

Cloud Benefits Go Beyond Cost Savings

Although our analysis indicates there are significant cost savings in moving an organization to the cloud, there also are strategic advantages. Our *Technology Trends* survey for 2016 identified four strategic benefits of SaaS, beyond the

obvious reduction of IT infrastructure, which respondents rated as the most important benefit.

1. **Speed of implementation**: Our survey found speed as being the second most important benefit in the eyes of cloud-based system buyers. SaaS eliminates all the up-front activities for installing hardware and software, allowing customers to immediately begin configuring and focus on business process design. In addition, the vendor assumes all responsibility for applying patches and fixes required during the course of the implementation. "Cloud gives us faster implementation and corresponding time to market," wrote one CIO.

2. **Scalability**: Resource pooling and rapid elasticity are essential characteristics of cloud computing. These allow cloud applications to scale instantly to meet both short-term and long-term increases in transaction volume, storage requirements, or network bandwidth. Few internal IT organizations can afford to maintain excess computing capacity to accommodate variability in demand or as a contingency for future needs. Cloud computing ensures that, from the standpoint of computing resources, the customer will never outgrow the system.

   One CIO confirmed the scalability benefits of cloud computing. "Recently, we made an acquisition that will grow all aspects of our business by 25% without any increase in back-office costs," he wrote.

   "Scalability may be the greatest benefit we achieve from our cloud initiatives," another IT executive said. "Should we experience massive growth, based on our experience, we should encounter no issues in scaling up."

3. **Ease of upgrades**: With on-premises software, many problems are related to customers being on different versions of operating systems, databases, and middleware. In some cases, customers have modified source code, leading to further complications. Therefore, when fixing bugs, vendors need to re-create and solve problems for each customer's specific configuration. With the best-designed SaaS applications, there is only one version, eliminating these problems.

   Furthermore, many SaaS providers give customers access to new features without forcing them to go through periodic version upgrades. The best SaaS providers push out new functionality to customers on a more frequent basis, allowing faster consumption, with little or no action required on the customer's part. As a result, organizations upgrade their cloud-based systems much more often, more rapidly

'Scalability may be the greatest benefit we achieve from our cloud initiatives,' said one respondent.

consuming new features from the software provider and leading to further innovation. The minimization or elimination of version upgrades makes IT personnel more productive and allows them to focus on activities that have more value to the business. It also mitigates the risk of the system slowly becoming obsolete through customer failure to apply version upgrades.

"You usually are always on the latest version, and you don't have to perform upgrades or maintain the services and equipment," an IT director for a manufacturing company said. "You don't have to go looking for money to upgrade—it's already part of the cost."

4. **Agility:** With on-premises systems, organizations may need significant lead time to add a new production facility, enter a new international market, or assimilate a new acquisition. Such changes may require the addition of a new system instance or, even worse, addition of a new data center. Fast-growing organizations find that cloud-based systems remove such impediments to growth. Cloud systems are much more flexible, allowing new facilities or new international territories to be added without adding new hardware or system instances.

Moreover, the flexibility and ubiquitous nature of cloud computing has larger benefits to the organization. "You have to consider how much more productive your users are by being able to work anywhere, anytime. Cloud computing definitely increases their ability to collaborate and innovate," wrote the cloud user in the life-sciences industry. "Anecdotally, I would say that being in the cloud has had tremendous returns (incalculable as they may be) for our non-IT employees."

One CFO in the professional services sector pointed out that engaging with a cloud provider allows his firm to benefit from industry best practices for security, Tier I disaster recovery capabilities, and the global footprint of the provider. Smaller companies in particular can rarely afford to maintain such capabilities themselves.

Most Should Move Aggressively to the Cloud

Our research refutes the claim of traditional technology vendors that on-premises systems over the long run are more cost-effective than cloud-based systems. To be clear, when comparing on-premises costs of a single application with its cloud equivalent, the long-term costs of the cloud system may appear to be greater. However, as we have shown, the total cost of running an IT organization that is largely in the cloud is significantly less than one that relies on its own IT infrastructure.

'You have to consider how much more productive your users are by being able to work anywhere, anytime,' said the respondent in the life sciences industry."

Beyond cost savings, the strategic benefits of cloud computing—speed, scalability, ease of upgrades, and flexibility—argue strongly in favor of SaaS as the center of the IT strategy for most organizations.

Does this mean that every IT organization should move to the cloud? Despite these financial and strategic benefits, there may be cases where organizations need to retain their on-premises systems. Some of these reasons include situations where there is a well-entrenched mission-critical legacy system. Core banking systems, claims processing, and other operational systems are examples. Large organizations with highly modified ERP systems may find it easier to simply leave those on-premises systems in place and deploy cloud-based systems for new applications surrounding ERP. In some cases, however, legacy systems can be moved to a managed services provider, at least allowing the on-premises infrastructure to be slimmed down. In other cases, such as with a well-run manufacturing execution system or warehouse management system, the effort required to move to the cloud may be hard to justify.

Other cases where on-premises systems may need to be retained include situations where the public network infrastructure is not reliable enough for remote access, as in some developing countries or even in some rural areas in developed countries. Concerns about security, privacy, and loss of control—whether justified or unjustified—also may inhibit a wholesale move to the cloud. Our research indicates IT executive concerns in these areas are lessening, but in some cases, business leaders have not yet overcome them. Traditional vendors of on-premises systems continue to stoke these fears about cloud computing. In addition, well-publicized security breaches and privacy violations mean that for some organizations, a wholesale move to the cloud is too difficult for some business leaders to embrace at this time.

Nevertheless, for most organizations, our research indicates that an aggressive strategy to move most or all of the organization's IT systems to the cloud is justified. To those IT leaders ready to pursue this strategy, we make the following recommendations:

- **Make explicit management's commitment to the cloud.** It is difficult for an IT leader alone to pursue a cloud migration strategy without firm management backing. Are there privacy or security concerns that need to be addressed? Is the organization ready to spend money in the short term on a cloud migration in the interest of saving money and gaining agility in the long term? Get these commitments up front before investing effort in developing a cloud migration strategy.

It is difficult for an IT leader alone to pursue a cloud migration strategy without firm management backing.

■ **Conduct an application portfolio health assessment.** Most organizations have a collection of application systems in various conditions. Some are adequately meeting the user needs; others are in need of replacement. Still others have problems that could be resolved with a system upgrade. Understanding the priorities for upgrading or replacing existing applications is a critical first step in developing a road map for migration to the cloud. An application portfolio health assessment, based on an end-user survey, is a good way to gather data to evaluate system health.

■ **Make cloud the preferred deployment option for new applications.** There is no way to move to the cloud if the IT organization continues to implement new systems on-premises. Gain management commitment for the IT maxim that cloud deployment is the default option.

■ **Replace problematic applications with cloud equivalents.** Most mature organizations have a certain percentage of applications that are not satisfying users and need replacement. Replacing such applications with newer cloud alternatives is an opportunity to kill two birds with one stone.

■ **Investigate whether incumbent vendors have hybrid deployment options.** Many traditional providers such as Oracle, SAP, Microsoft, and Infor offer hybrid deployment options for their traditional on-premises applications. For example, SAP's latest version of its Business Suite, S4/HANA, can be deployed on-premises or as a cloud service. Oracle also has its cloud services, through which it can host any of its existing systems. Microsoft, in similar fashion, now allows its Dynamics line of business applications to be run on-premises or on its Azure cloud. Infor has its CloudSuite offerings, where it can deploy industry-specific combinations of its systems on Amazon Web Services' infrastructure. When combined with a version upgrade, as Infor does, migrating existing systems to the vendor's cloud platform can be a powerful combination to bring the system up to date and get them off-premises at the same time.

■ **Consider managed services for custom-developed or legacy applications.** As indicated earlier, some applications may be so well entrenched that wholesale replacement with a SaaS application is not justified. These may be custom-developed systems or packaged applications that have been heavily modified beyond recognition. This does not mean that such systems need to remain

on-premises, and moving them to a managed services provider may be a good alternative. Although there may not be cost savings, this reduces the demand on the organization's data center and frees internal IT resources to focus on higher value activities.

Once the health check has been completed and the future of each application system is determined, the organization's long-term IT road map can be refreshed. The IT strategy will spell out a series of initiatives to replace, upgrade, and migrate each system to the cloud or to other off-premises providers. The good news is that, as our survey shows, the organization will begin to realize cost savings and other benefits of cloud deployment even if some systems remain on-premises. As long as there is a significant movement to the cloud, the organization will begin to enjoy the benefits.

Computer Economics plans to update the findings in this report based on additional responses collected in future versions of our survey. Cloud users that participate in our survey will receive the updated version of this report, along with more than $6,000 worth of our top research reports. To apply as a participant in our annual survey, please contact us.

About Computer Economics

Computer Economics provides research and advisory services on the strategic and financial management of information technology. Our clients include IT end-user organizations and major consulting firms in North America. Our *IT Spending and Staffing Benchmarks* study, published annually since 1990, is the definitive source of IT benchmarking data. Other annual studies include *Technology Trends*, an assessment of technology adoption, spending, and economic experience; *IT Outsourcing Statistics*, which provides data on the use of and experience with IT outsourcing; *IT Management Best Practices*, which measures adoption trends of strategic IT practices; and *IT Staffing Ratios*, a bundle of staffing benchmarks for 14 IT positions. We also publish an annual *IT Salary Study*.

In addition to these major studies, we publish IT management advisories on various issues of concern to IT managers. These reports are made available through our website. For further information on our custom benchmarking services, website subscriptions, advisory reports, and other services, please contact our office or visit our website at www.computereconomics.com.

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