Introduction
Implementing cloud solutions into your portfolio can provide opportunities to increase agility and improve process efficiency by supporting a faster time to deploy applications, reduce development costs, reduce overall IT expenses and increase the utilization of resources to address rising customer expectations. Adopting cloud is often considered as part of a larger business technology transformation initiative which aims to reign in the increasing IT spend, and close the gaps between costs and productivity. Often the goal of IT transformation focuses on reducing the run-rate expenditures and improving delivery quality. Other aspects can include a rationalized infrastructure, a streamlined portfolio of applications, and a redesigned organization. In this context, the intent and expectations of cloud is clear, as business looks to shift into new delivery models and onto lower cost curves. As cloud is gaining momentum as a mainstream IT delivery model, it is important that the business and IT teams engage in joint discussions to guide decisions on why, how, where, and when to adopt cloud.

Below are 10 key questions that both business and IT leadership should consider when starting their Journey to Cloud. These questions are intended to give consideration toward initiating changes within an organization and addressing potential risks and security concerns with cloud.

1. How can cloud benefit your business? Cloud services can increase flexibility, reduce capital expenditures, reduce labor costs, enhance flexibility in application development and delivery, reduce ongoing costs for maintaining infrastructure, reduce operating expenditures, and increase service availability. However, it is
important to develop both short and long-term roadmaps along with specific metrics (such as average time to deploy, total cost of ownership, and return on investment) to evaluate the long-term gains. A roadmap will help guide the transition of current capabilities over to cloud based alternatives and aid the organization in staying the course, as initial year results may include higher costs until efficiencies and longer term cost avoidance comes into play. It is important to incorporate risk and security aspects in the development of a roadmap to address them early and effectively.

Overall, long-term ROI may be driven based on the size and complexity of capabilities that are transitioned over to a cloud based service. There are many potential benefits of adopting cloud services, but effective planning, establishing proper ROI measurements, and clearly communicating goals are central to an effective strategy. In general consider a simple formula: Trust + Transparency = Control. Developing trust with the cloud provider and being able to establish and maintain the requisite level of transparency can enable you to release control of your application, data or service to cloud and realize intended goals.

2. How do I know if my legacy or planned application is viable in cloud? A simple fact is that some legacy applications are unable to be migrated to a cloud platform. For example, certain applications have organically grown and are finely tuned to work in their original architecture. To determine if an existing or planned application or workload is viable for deployment in a cloud environment, first evaluate the profile of the workload against the tenets of cloud. Next, determine whether a commercially available cloud offering is available to provide the desired capability. Lastly, if you have standardized on specific cloud vendor architecture, determine whether existing services can be migrated to your vendor’s environment.

As part of developing the profile, look at the application’s business drivers, technical complexity, security and risk posture, and interdependencies with other applications. This approach can create a “health check” view of each application. It offers the team an opportunity to evaluate potential alternatives—offerings in the market (SaaS, PaaS, or IaaS) which may provide an equivalent or higher level of integration, availability and value. Developing a set of “health” metrics can help organizations make informed, data derived decisions—about which applications have viable market alternatives, or which are ready for retirement or redesign. This approach can help identify both a strategic plan and a tactical path for migrating to cloud.

3. Alright, I know cloud can benefit my business, but how do I go to the cloud? An effective journey begins with having a plan and a roadmap to facilitate arrival at your desired destination. Many organizations have come to the realization that it is no longer a question of if they will adopt cloud, but rather when, where… and how. For example, few people are likely to go to the airport and say, “I’ll take that plane to wherever it goes.” The move to cloud is no different. Although businesses often start by finding a few lower level workloads to migrate to cloud (i.e., not mission critical), a typical first step after starting the discussion is to identify the strategic business goals and existing situations that will be best met through leveraging cloud based technologies (see Question 2). This can help you map the business functions and their impact on mission or shareholder value, in order to establish proper expectations and stakeholder engagement, and communicate appropriate ROI metrics.

The focus is on aligning the business need with the appropriate cloud service—looking for the greater level of integrated capability available to address the business need. While planning to meet the strategic goals of the mission, it is important to identify potential quick wins in order to build confidence, experience, and momentum within your organization or business unit.

4. Where do I start with cloud? Should I focus on the application or the data? The simple answer is to focus on both the applications (as previously mentioned) and the data. Often, teams start looking from an application perspective, however the bigger goals for increasing customer engagement, information security, trying to gain competitive advantage or increasing service delivery may require a focus on the data. Specifically, as it pertains to your data, three key questions that you consider are, where is my data physically located, how is my data being secured and accessed, and ultimately, how do I maintain control of data when using a cloud service. It may be easiest to focus on the lowest-risk workloads—those with minimal customer data or sensitive information. Alternatively, large applications that can leverage the true advantages of cloud, such as elasticity and scalability, may prove out to be ideal options for cloud when considering the need to respond to varying demand patterns and addressing how users want immediate access to the information—from offices, in the field, or on the go.

Also, consider a workload that may create or sustain a competitive or mission advantage for your organization by adopting a cloud delivery model. Just as IT disciplines are important to cloud, so are business disciplines—especially those concerning data. Data planning, data management, and overall data stewardship should be an early and frequent topic of discussion. Asking what types or classifications of data are involved, what business policies and guidance govern the data, and how the data should be protected, can add to the overall business profile. Discussing the protection and ownership aspects and potential risks of loss, leakage, or exposure can help to quantify the risks and bring the specific requirements and governance approach to light. This information can be used later along with the tools and methods for developing and maintaining proper transparency surrounding the data throughout its lifecycle.

5. What type of cloud should I consider? Where do I look for the On-Ramps? A variety of disparate cloud services are emerging in the marketplace. It can be challenging to know which combination of Service Models (SaaS, PaaS, or IaaS) and which Deployment Models (Public, Private, Community, and Hybrid) to subscribe. The value generally increases as you go up the cloud stack from IaaS to SaaS, but so does the shift in control of resources, from the business to the provider.

Some agencies have chosen to start their journey to cloud by providing customer service capabilities with a SaaS and others have chosen to start with a SaaS provider to improve HR services for their internal workforce. Organizations needing to stand-up new capabilities quickly started by building upon IaaS services to provide on-demand utility computing support for critical analytic workloads and to provide quick innovations with
new technologies. Consider your organization’s size and maturity, IT skill set, and application portfolio when evaluating which cloud model to migrate into or redesign your data and application for, and then compare them to your organization’s business objectives.

6. What are the financial considerations for going to cloud? How can I afford it?

Financial considerations with cloud will most likely require a change in the financial mindset of the organization—and require looking at certain factors such as cost and expense allocation, financial modeling, budgeting, and total ownership analysis in a completely different way. To start, cloud shifts organizations to a consumption-based financing, alleviating large, way. To start, cloud shifts organizations to a consumption-based financing, alleviating large, up-front infrastructure and software license costs. There are mixed messages on the cost of cloud, cost can be underestimated by just looking at service consumption utility rates, or overestimated by looking at applications that have not been well maintained, but the financial benefits over time often include significant long term savings due to higher economies of scale, utilization based fees, lower labor costs and eliminating the need to constantly procure new hardware and software assets.

One last point on financial considerations, is the importance of truly understanding and being able to articulate to the business leaders what it really takes to run IT today and in the future, in other words, Total Cost of Ownership. The business and the CIO should work together and think in terms of TCO when contemplating IT decisions today. A total life cycle cost model looks beyond acquisition and the pure technology infrastructure cost, it looks at the entire lifetime of the services. The challenge from the public sector perspective is that the out-year savings ought to be classified appropriately, so that they fall within the organization’s budget window to include and properly allocate transition costs into the TCO. This is especially important because many of the systems that are operating today in government are extremely old, difficult to maintain and incredibly costly to replace. To be able to finance the move to the cloud you should consider all of these factors to truly determine whether or not a move to the cloud is a smart financial decision for your organization.

7. What are some Business Operations changes and challenges with cloud?

Many public sector organizations are well established in their processes and business rhythms, but cloud may require them to revise their existing business and IT disciplines, everything from budget and procurement processes, to policy, planning, and ongoing operations. Cloud shifts the focus from systems to services, which requires viewing new skills, planning, business cycles, governance, and performance metrics from a new lens. Procuring IT based on asset requirements has been the norm, but going to cloud shifts the acquisition to the subscription of services, such as, infrastructure, application hosting, and data analytics as discrete services that can be bundled together and managed not just once at asset acquisition, but rather as a composite set of services that need to be managed throughout the life of the contract.

The Business, CIO and Procurement offices should be in lock step, and truly think in terms of new cloud services—including how to procure, manage and retire these new services. Other considerations should include changes required to allow for the accounting, billing, and reporting systems to accommodate cloud based services. New thinking is required around SLA planning, measurement and compliance—aligned across the three teams. Ongoing metrics should become part of the full acquisition and solution lifecycles. Lastly, and more importantly, you may need to consider realignment of the organizational model and staffing to drive greater leverage and growth beyond just efficiencies. Agencies should revisit their staffing portfolio of the roles and job descriptions based on changes to include new roles that are needed, such as new service managers, versus system administrators, who are well-versed in the subtleties of cloud or changing finance/acquisition roles to handle cloud pay as you go.

8. What should I consider when choosing a Service Provider?

Selecting a cloud vendor is different than selecting other outsourcing IT service providers of the past. It’s a shift from government owned or contractor-operated capabilities with custom SLAs priced by the vendor—to standard provider offerings on provider technologies, whether that is with a public, private or hybrid cloud. Several perspectives, such as data and change management, audits and transparency, service levels, and even data migration requirements may be somewhat new, but are critical when considering a cloud provider. Start by understanding your business needs and creating a profile of your workload. Adding details and requirements regarding the surrounding IT environment is imperative. Look to the capabilities available in the market, and explore the highest level of integrated capability and value available to meet the business need.

An assessment of the available providers should be conducted to determine if the vendor can satisfy the organization’s cloud, technical, business and operational requirements, today and in the future—comparing the current and future business workload profile and existing service levels with the provider’s offered service. Typically, cloud service providers generally offer a standard, fee based services rather than a menu of tailored offerings for a custom price. This detailed comparison and associated dialogue will help to foster trust and understanding in providing the level of transparency needed to assess the
available services. An organization should not only look for flexibility, excellent performance, and solid user care from a cloud provider; they should assess the areas in which cloud providers can differentiate themselves from the pack. Similar to other strategy decisions, organizations may end up with multiple providers in their portfolio to meet varying business needs making it critically important to keep an eye on the ability to integrate. However, you should still evaluate each selected service provider’s end to end capabilities, research and development investments, lineage of product and financial heft to continuously develop its products and maintain ongoing operations.

9. How do I manage my data in the cloud?

The move to cloud is about your data and data management, and can raise some questions—Where is my data? How do my users access the data? Is my data properly protected at all times? How do I get my data back? The move to cloud will emphasize your potential need to implement new policies for access and control of your data. Attribute-based controls, encryption and data tagging are critical elements that will need to be considered based on your data access and sharing demands. Remember that your data is not automatically secured with the cloud, but security options are readily available to protect your data. As you begin to put data in the cloud, it is important to know how you will get your data out of the cloud service you selected. Remember that it is not about having your data in one place but rather having the ability to access and extract the needed knowledge and intelligence from your data to help drive your organization forward. The relationship and service level agreements (SLA) with your cloud service provider (internal and external) are critical in developing sufficient trust and sustaining transparency so you can feel comfortable essentially giving up direct control of your data. Cloud requires business units and organizations to address and codify the requirements for data storage and business continuity. It is important to understand these requirements prior to moving data to the cloud. Lastly, it is important to consider the additional protections that cloud offerings can provide to protect your data.

10. What effects does cloud adoption have on security?

Regardless of private, public or hybrid, cloud amplifies the need for the implementation of effective security processes and protection. Up-front discussions should be clear on which controls and standards are important to your business, and focus beyond the usual players to include members from other areas, such as contracting and service operations. There are international, industry, and government defined standards and requirements (e., FISMA and FERDAMP, HIPAA, PCI) that can help you establish a common baseline. These standards and leading practices can accompany the business-specific requirements that you incorporate into the planning, capability selection, and operational processes, helping to properly address the security measures, capabilities and posture appropriate to protect mission operations and data when using cloud. Business disciplines should consider each provider’s INFOSEC policies, plans, and procedures, and how they align and function with the agency’s security controls.

Cloud services are not necessarily more or less secure than your business’s existing environment. There are risks and improvement benefits possible when considering a shift to the cloud. Be aware that going to cloud provides opportunities to improve the security posture of legacy infrastructure, applications and/or data. This can be part of a stronger business case for moving to the cloud.

Whatever you decide and whatever cloud provider you choose, evaluating and choosing a provider based on their and your business risk profile is an ongoing process. Your continuous monitoring of performance and incorporation of improving security capability offerings will continue to offer opportunities to reduce security and operational risk.

Conclusion

Cloud can offer tremendous business opportunity and value. It is important to understand your cloud options and how they can impact your organization and business/mission. By having the answers to these questions, you can make more informed decisions as you begin your journey to cloud. You should allow your strategy and business impact to drive your move to cloud, rather than being driven to cloud by “the allure of shiny objects.” Deloitte can help you understand cloud, map out your cloud strategy, and adopt a roadmap that helps you meet your specific business needs.

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