Cloud computing has taken the technology industry by storm, with enterprises of all sizes using it for a variety of advantages. Moreover, the cloud’s value proposition continues to evolve beyond the early benefits of increased agility, lower costs, and faster time to market. Enterprises are now using the cloud to enable new business models, boost revenues, and transform customer experiences in what has become a truly digital era.

Now that cloud computing is “the new normal,” enterprises must get even better at it. That means using the cloud to create a foundation for digital transformation and innovation, so they can adjust quickly to whatever new business opportunities and processes follow. This requires thinking about the cloud differently than a traditional data center, while maintaining some of the same disciplines that have guided IT for years.

The opportunities—and challenges—may seem daunting. These include determining which applications to put in the cloud and which ones to keep on premises, as well as identifying the legacy applications that need to be rearchitected for the cloud. They can even take advantage of anything as a service (XaaS), and stay current on the latest...
Cloud may represent a significant transition for both IT and the business, and a successful pilot project can build internal political capital for future changes.

in technology trends such as AI/machine learning and Internet-of-Things applications.

Beyond technology, though, enterprises must grapple with how to make changes to ingrained processes while maintaining security and compliance. Other challenges include establishing DevOps to create more agility, addressing scalability, launching new operating models, and establishing cloud centers of excellence (COE) to create a virtuous circle of cloud expertise.

CHANGING FUNDAMENTAL THINKING ABOUT THE CLOUD

Moving beyond fundamental cloud benefits requires thinking about the cloud in a new way. It’s easy to peg cloud solely as infrastructure, but it’s not. Cloud collapses the separation between applications and infrastructure, and enterprises can’t think about one without considering the other.

It’s a perspective that’s important to cultivate for success. Previously, when deploying applications, IT had to consider procurement cycles, capacity, bandwidth, and physical security. The cloud gives enterprises the opportunity to leapfrog those challenges. Freed from the expensive and time-consuming effort of buying—and managing—physical infrastructure, IT can focus on improving internal processes—and creating differentiation—in order to be more nimble and responsive to business demands. Via the cloud, IT can focus directly on customer requirements without waste or waiting.

Aligning IT with customer requirements necessitates knowing what those are. Traditional infrastructure and proprietary software tools are typically not agile or cost-effective enough to meet the ever-increasing demand for storing, analyzing, and predicting customer usage and buying patterns. There is a strong requirement for creating shorter feedback loops with a customer; this calls for an agile cloud infrastructure.

One increasingly popular method of tackling this is through deploying an integrated process: tying together DevOps capabilities in IT, a cloud COE, and a native cloud platform as a service (PaaS). This allows enterprises to match internal processes with the speed of deployment that cloud provides. All three concepts work together to ratchet up speed.

For instance, DevOps represents an improvement over traditional waterfall (or in some cases, even agile) software development for fast turnaround times. By establishing a COE, enterprises can codify best practices for standardization and reusability that aid both scalability and automation.

A cloud-based PaaS, employing what’s known as micro-services architecture, allows development teams to update not just applications, but services within those applications, enabling continuous improvement. This also provides an opportunity to rearchitect legacy applications, by essentially recreating them, service by service, in the cloud. Services resident in older applications can exist in virtualized containers, while services for new applications can be added via an API call.

FUNDAMENTAL THINGS APPLY

As significant a change as these options represent, some long-standing IT issues remain. Just as IT
Cloud computing helps businesses be better prepared and more agile when the next new opportunity comes along.

has focused on business alignment for decades, it should, in developing this application architecture, analyze the organization’s cloud strategy from a business and cultural standpoint. How can the organization use these new capabilities to boost its competitive advantage, launch new business models, or increase customer engagement?

As with any new technology, enterprises should choose a cloud transformation project that will give them a quick win, with high potential payback through cost savings, time to market, or improved customer experience. Cloud may represent a significant transition for both IT and the business, and a successful pilot project can build internal political capital for future changes.

While the cloud lets organizations think more expansively, it also requires them to think more granularly, especially when it comes to selecting projects for deployment. Start with current applications. Consider which of them should stay internally hosted, which might go to the cloud, and why.

Begin by asking if an application is robust or independent enough to be moved wholesale into the cloud. Many applications aren’t—they require some tinkering to overcome inefficiencies. Some may be too brittle or old and need to be replaced by a native cloud application.

The order in which applications are migrated is also crucial. The best approach is to identify applications that have few interdependencies with other corporate applications, such as human resources applications or information-only corporate websites (not e-commerce). This will help get both IT and the business accustomed to cloud computing.

But there are other issues to consider as well, both technology and resource related.

The technological issues include:

- Enhancing enterprise architecture for tighter integration between application and infrastructure stacks
- Ensuring data security and compliance, both in the cloud and in transit
- Establishing adherence with privacy and sovereignty regulations based on geographical location of cloud data centers
- Integrating or tailoring existing service-management tools and processes to accommodate either a public or hybrid cloud ecosystem
- Deploying, whether through building or purchasing, a cloud management platform

The resource issues include:

- Addressing the process of developing, testing, and bringing up to date smaller but faster updates
- Improving change management techniques and governance of micro-services to enhance reusability and avoid redundancy
- Reconfiguring staff resources for migration, by understanding both the impact to the existing workforce and where new skills or retraining might be necessary

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White Paper

- Supplying technical support for new applications
- Adopting accounting principles as IT spending transitions from capital to operational expenses

THE PAYOFF: CUSTOMER SUCCESS STORIES

Sometimes enterprises are skeptical of new technology because there’s always another innovation coming along after it. But that, ironically, is the payoff of cloud computing: As a foundational technology for business acceleration, it gives enterprises a competitive advantage. It helps them to be better prepared and more agile when the next new opportunity comes along. Think of how many new, recent technologies rely on the economies of scale that cloud technologies bring—customer-facing mobile applications for ridesharing, high-speed analytics applications that aggregate both structured and unstructured data, and social networking, to name a few.

Creating competitive advantage is increasingly important because the nature of competitors is changing. Enterprises not only have to worry about traditional rivals, but also digital startups and trendsetters that are dramatically altering the competitive landscape in nearly every industry.

Consider these success stories from shared clients of Cognizant and Amazon Web Services (AWS) that have derived significant benefits from a well-designed and thoughtfully implemented cloud transformation.

Biopharma Company. A leading biopharma company required a more efficient, scalable, and secure platform for hosting its multiple websites and delivering content through them. Cognizant developed and executed a strategy for migrating the client’s applications to the AWS cloud that included infrastructure design; proactive security monitoring and alerts; business continuity, backup, and recovery measures; and improved performance at reduced cost. The result: 65% cost savings and a 34% improvement in website performance. Also, Cognizant deployed proactive security monitoring and alerts and established defined processes for expediting further adoption of cloud services.

Insurance Provider. Having grown through acquisition of multiple insurers, each with its own distribution strategy, this super-regional insurance holding company found itself saddled with technology debt. The company was using an array of homegrown and commercial off-the-shelf software as a system of record. The IT and business leaders wanted to create a better digital experience for both customers and brokers with the following benefits: an immersive e-commerce experience, the ability to rapidly price and sell policies, and faster handling of customer claims. After lengthy consideration, the organization chose Guidewire Software (Guidewire.com) as its next-generation core insurance platform. Before deployment, it turned to Cognizant to assess its underlying infrastructure and determine if it was up to the task. Rather than execute a full data center refresh and expansion, Cognizant recommended running Guidewire as a service on AWS. Not only would the company save the up-front capital expense, but it would also receive the ancillary benefits of scale, high availability, and simplified disaster recovery. The result: Guidewire has now been in full production for three months without a single outage or performance issue.

Healthcare Information Exchange. A not-for-profit member-based organization specializing in administrative healthcare information exchange (HIE) found that its homegrown and proprietary vendor solutions were increasingly inadequate. Additionally, the regional exchange network required a modern, flexible, and scalable infrastructure for its more than 50 member organizations. The HIE not only needed to reduce
administrative costs, enable member innovation, and support advanced transactions, it also needed to migrate to a new infrastructure while still ensuring a high degree of reliability, security, and HIPAA compliance. Cognizant migrated the client’s systems to the AWS Cloud, enabling the client’s members to use standards-based communications protocols to process nearly 12 million transactions a month. The migration was seamlessly accomplished in less than three months, with minimal downtime and service interruptions. Cognizant also established a networking solution that enhanced security to meet regulations for maintaining personal health information (PHI) and payment card industry (PCI) data in a cloud environment.

WHAT THE CLOUD BRINGS
Many enterprises are jumping to the cloud for its basic advantages. They like the ability to move IT resources from so-called “utility” activities, such as procurement and deployment, to more strategic activities. They like swapping capital expenses for operating expenses. They like the simplicity that software-as-a-service (SaaS) options provide.

But others are looking beyond those basic cloud advantages to the expansive possibility of even more stratospheric success—the ability to take advantage of PaaS-based clouds and XaaS. Being able to develop processes that let organizations create, test, and deploy new micro-services and virtualized applications potentially means achieving new levels of speed, features, and end-user engagement (both customers and employees).

Just as mainframes provided a foundational technology for decades, cloud computing has the potential to provide a foundation for business capabilities that will serve enterprises for a generation. That’s why it’s crucial for enterprises to start their cloud journey now. An experienced and reliable partner can help lead the way.

QUICK TAKE

Four-week Cloud Accelerator Program

To help organizations get off to a great start with cloud, Cognizant and AWS have launched a four-week “Cloud Accelerator Program.” From initial cloud adoption to optimization, the program aims to smooth the transition to the cloud.

This program involves:

- Discovery, evaluation, assessment, and classification of selected customer environment, systems, and applications
- Identification of possible deployment patterns (rehosting, refactoring, revising, rebuilding, replacing) using AWS Services
- Work Breakdown Structure (WBS) and work backlog planning
- Migration roadmap to AWS
- High-level ROI/TCO study based on customer’s planned use of AWS Services
WHY COGNIZANT AND AWS?

Cognizant began working with the AWS platform in 2008, making it one of Amazon's longtime partners. Cognizant's designation as an APN Premier Consulting Partner, Managed Service Provider, and Authorized Commercial Reseller is based on deep experience and exceptional service building robust solutions across a large number of enterprises. This, along with achieving multiple partner competencies, is evidence of Cognizant’s global capabilities, which include a track record of helping a large number of enterprise customers run their applications on top of AWS.

In this capacity, Cognizant combines its system integration capabilities, accelerators, frameworks, and toolkits, along with advisory, implementation, and managed services, with AWS's cloud computing technology and services. The result: a reliable, flexible cloud infrastructure that will drive business acceleration and digital transformation for the enterprise.

The companies' collaboration is driven by the common goal to serve joint customers by leveraging Cognizant's global delivery model with AWS's scalable, reliable, agile cloud computing capabilities. While AWS furnishes the building blocks of the cloud architecture, Cognizant provides the differentiating integration strategy and expertise to create industry and horizontal solutions to solve customer problems.

LEARN MORE:
www.cognizant.com/aws and
www.cognizant.com/Cloud

ABOUT COGNIZANT

Cognizant (NASDAQ-100: CTSH) is one of the world’s leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 205 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us ®Cognizant.