WHITE PAPER:

Leverage the Cloud to Strengthen Your Company's Competitive Advantages

The cloud is a business enablement tool for the 21st century. Virtual applications are secure, flexible, scalable and allow employees to work anywhere at any time. These transformational business solutions allow the smallest organization to compete with even the largest, more advanced and better-funded adversaries. For company leaders who do their homework and invest properly, the cloud can be a game-changer.

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These virtual platforms allow users to access programs and store data via the internet instead of inside a single computer's hard drive. While that definition may seem rather simplistic, the cloud has become a valued resource for virtually every business today. According to the latest CompTIA research, nearly half of all companies say between almost one-third (31%) and two-thirds (60%) of their IT systems are cloud-based and trending toward even greater adoption in the next few years.[1]

The benefits of these virtual services are too valuable for any organization to ignore, which explains why everyone is moving in that direction. In addition to the workplace flexibility the cloud brings to the table, the "pay-as-you-go" model frees capital that can be invested in new business opportunities and reduces the challenges of hardware lifecycle management (including recycling and disposal costs).

The continually escalating demand for these services appears to affirm its acceptance as a critical business tool. Gartner Research predicts the worldwide market for public cloud services will top $331 billion by 2022, with a compound annual growth rate (CAGR) of 12.6%.[2] MarketsandMarkets finds even greater optimism in the virtual technologies segment, expecting global cloud computing to reach more than $600 billion by 2023, at an 18% CAGR.

Business leaders overwhelming support virtual applications, expecting them to become an even more integral part of their operations over the next few years. That optimism is well warranted. Two-thirds of small- and mid-size businesses (SMBs) are planning to make digital transformation a crucial part of their IT systems by the end of 2023, according to IDC,[3] and more than half those organizations are prioritizing those activities.
Several factors are driving those strong adoption rates, including the demand for remote workforce tools. In a globally competitive environment, where SMBs vie with companies throughout the world to land top talent, cloud solutions are an equalizer, allowing even the smallest firm to build and retain a highly skilled workforce.

A Strong Business Case for the Cloud

The reasons for the strong business adoption trends for cloud solutions are numerous. A properly designed and implemented digital transformation can deliver a strong ROI and provide some level of benefit to every employee, department, and stakeholder in the company. Some of the key advantages of cloud technologies include:

- **Flexibility:** Cloud computing allows employees to work from nearly any place with an internet connection—both inside and outside the workplace. Workers can access files using web-enabled devices such as smartphones, tablets, and laptops, allowing teams to collaborate and share documents and other data via internal or external internet connections.

1. CompTIA. "2018 Trends in Cloud Computing. May 2018. https://www.comptia.org/resources/cloud-computing-trends-research

2. Gartner. "Gartner Forecasts Worldwide Public Cloud Revenue to Grow 17.5 Percent in 2019," April 2, 2019. https://www.gartner.com/en/newsroom/press-releases/2019-04-02-gartner-forecasts-worldwide-public-cloud-revenue-to-g

3. Boggs, R, La Croce, C, Ichimua, H: "IDC FutureScape: Worldwide SMB 2019 Predictions," Oct. 2018. https://www.idc.com/research/viewtoc.jsp?containerId=US43439619

- **Enhanced remote work capabilities:** Whether sitting at a desk in the company headquarters or at a client site on the other side of the globe, employees with an internet connection can access and update information in their virtualized business applications. Team members and customers can communicate and collaborate in real-time, regardless of their locations, via the cloud.

- **Scalability:** The per-user model allows even the smallest company to implement cloud technologies and add "seats" and additional features (when applicable) as their organizational needs and employee headcount rises. Inversely, when a business downsizes or cuts back on personnel, it can drop or reassign users. Cloud computing makes scaling easier and more affordable than traditional software, which typically requires companies to make annual software license purchases (and long-term commitments).

- **Modernization of legacy IT environments:** Updating outdated and underperforming systems can be expensive, and those projects often require a significant amount of time to complete. With careful research and a well-crafted plan, a business's cloud solutions can be quickly implemented and operational with minimal disruption to workflow and operations. Virtual technologies require no capital investment, support more rapid deployment, and make it easier to test and procure applications without significant financial repercussions.

- **Enhanced security options:** Cloud providers regularly and routinely install patches on their applications to strengthen protection measures and reduce the likelihood of cyberattacks and address potential vulnerabilities. These solutions store and protect data off site and automatically back up all information to ensure its availability 24/7. With today's reliance on the remote workforce, employees often use multiple devices and access applications from various locations, which can compromise information and system security. Cloud solutions typically encrypt all data and provide users with protection measures, such as two-factor authentication, to ensure safe computing from any location.

- **Additional business capabilities:** Many cloud solutions allow individual users to select from a menu of prebuilt tools and features that customize the system to fit their specific business needs. Some integrate with department-specific applications that improve efficiency by eliminating manual tasks or increase the capabilities of particular work teams. For example, a

Cloud Models

Public Clouds: Enables users to access and share basic computing infrastructure, including hardware, storage, and networks. Each user's or company's access remains isolated from other tenants. Most organizations employ public cloud solutions based on availability, ease of use, and interoperability with prevalent business tools. While some companies may have specific security and regulatory compliance concerns with these platforms, with the assistance of an experienced IT services provider, those fears and other potential issues can be easily put to rest.

Private Clouds: Also known as enterprise clouds, this computing model is constructed and managed using an organization's internal IT infrastructure and resources. Since the company is responsible for all maintenance, upgrades, equipment, and software, private clouds are usually cost-prohibitive to small- and mid-size businesses.

Hybrid Clouds: A pool of two or more virtual environments—public or private. These combined resources may be developed using third-party sourced hardware as well as company-supplied equipment, support, and services.

marketing department may leverage third-party apps to perform email promotions and track campaign results using Office 365.

- **Cost-effective:** The cloud is delivered using an "as a service" consumption model, which means organizations can pay as they go, with smaller periodic payments (i.e., monthly, annual) rather than procuring costly software and servers. Application updates typically occur automatically and cause minimal (if any) disruption, which reduces workstation and employee downtime. One of the most significant advantages of cloud solutions is they shift traditional Capex (capital expenses) to Opex (operational expenses) and free up cash that business leaders can use to expand their operations, boost marketing and sales efforts, or add to bottom-line profits.

- **Reduced environmental impact:** Eliminating or minimizing on-site servers decreases cooling and power requirements. Cloud computing encourages the use of shared resources that allow organizations to maximize their energy efficiency, reduce their carbon footprint, and promote compliance with various "green" initiatives.

Despite all the advantages of the cloud, like any business process or technological innovation, making a digital transformation can have its challenges. One of the primary obstacles is the lack of resources and expertise. While many companies race to adopt cloud technologies, and these solutions continue to advance, it gets increasingly difficult to realize all their benefits without skilled professionals in place to configure and deploy the various applications.

Projects can quickly bog down without the right knowledge and resources. Expect those challenges to continue as the cost of hiring and training IT professionals continues to rise. Demand is far surpassing the supply of skilled labor, which is why many organizations are outsourcing cloud procurement and migration to qualified IT services firms.

Top Cloud Business Applications

Remote workforce tools and productivity-enhancing business solutions are basic essentials today, and technology is a real game-changer for attracting new employees. The latest generation of workers was raised in the computer age and favors companies that embrace innovation and leverage IT solutions to simplify their lives. More than two-thirds (67%) of millennials in the most recent CompTIA workplace study[4] reported technology being a factor in their employment decision.

Older workers, even those with minimal computer experience, are coming around, too. Most realize the increasing value of IT tools, and even the most tenured industry professionals are taking steps to improve their technical competencies.

The cloud makes adoption easier for employees. With the ease of developing and marketing virtual solutions, competition is growing in many areas, forcing vendors to create more intuitive solutions with higher capabilities. Organizations can take advantage of those innovations and improve productivity by implementing some of the most valued cloud business tools, including:

4. CompTIA Research on Managing a Multigenerational Workforce, June 2018. https://www.comptia.org/resources/managing-the-multigenerational-workforce-2018

- **Office 365:** The computing community has long embraced Microsoft's business application offerings, from Exchange and SharePoint to the full Office Suite, including Word, Excel, PowerPoint, and Outlook. After migration to an entirely cloud-based solution, Office 365 users can access all those productivity tools from any location using almost any device. That's a significant benefit for remote employees, those who travel frequently, and companies with multiple locations.

- **Google Cloud/ G Suite:** Like Office 365, this software-as-a-service solution groups all the company's cloud-based productivity and collaboration tools into a single platform. Users can get custom Gmail addresses and create, manage and share documents, spreadsheets, slide presentations, calendars, file drives and more.

- **Customer relationship management (CRM) systems:** These solutions help organizations better understand their clients' needs, habits, and desires. Many businesses are moving to cloud-based CRMs to provide team members with mobile access, reduce capital expenses and support costs, simplify information and application updates, and tighten security protections. With real-time backup, these virtualized solutions allow companies to cost-effectively manage accounts, close sales and track employee productivity.

- **Voice over Internet Protocol (VoIP):** Traditional telephone services can consume a significant share of a company's budget. Hosted VoIP is a more cost-effective solution that also provides organizations with greater communications flexibility, allowing employees to make and accept calls using a variety of devices, including PCs, laptops and smartphones. With numerous integration and feature options, the market for these solutions is growing 15% annually, and experts expect it to reach $55 billion by 2025, according to Global Market Insights.

- **Web conferencing:** Organizations can use online meeting applications to collaborate with employees, clients, and prospects located anywhere in the world. These solutions allow companies to expand their geographic reach while saving time, money and other valued business resources..

Cloud Glossary

The terminology used to describe the various types of virtual systems can be confusing. A running joke in the IT industry is that companies simply add "as-a-service" to the end of any cloud platform to make it a marketable offering. Here are a few of the most common terms business professionals should know:

IaaS (Infrastructure as a Service): This is the foundational or broad platform upon which other cloud systems are constructed and delivered. Amazon Web Services is a familiar example, which includes database, storage, virtual private server, and support services that are available on demand by the hour or by the unit (MB).

DaaS (Desktop as a Service): This is next level down from IaaS. PaaS (Platform as a Service) suppliers offer a cloud framework and a basic set of functions developers use to create their own unique applications. Examples include Google App Engine, Force.com from Salesforce, and Microsoft® Azure.

SaaS (Software as a Service): This model represents any web-based software or service that a business or individual can lease on a periodic basis (usually per-user, per-month or annually). SaaS applications are often customizable and may integrate with other cloud solutions, apps, and tools. Examples include Microsoft Office 365, Salesforce, and Google Apps.

- **Cloud backup/business continuity:** In a digital world, when a company's systems go down, so goes its productivity. Lost or inaccessible data is detrimental to customer satisfaction and retention and, in the end, an organization's revenue streams and profitability. Cloud backup and business continuity solutions protect vital business information, operations and the bottom line.

- **File sync and sharing:** Eliminating or minimizing on-site servers decreases cooling and power requirements. Cloud computing encourages the use of shared resources that allow organizations to maximize their energy efficiency, reduce their carbon footprint, and promote compliance with various "green" initiatives.

- **Marketing platforms:** Tools that help automate promotions and lead-generation activities are essential in today's business environment. Cloud solutions can ensure organizations remain relevant in the digital era. Virtual marketing applications give companies the flexibility to run campaigns from any location and share information via email, social media, websites and blogs, and other platforms.

- **Human resources (HR) applications:** Before cloud-based solutions, HR teams often managed employee information offline or on stand-alone platforms due to bandwidth issues (data-intensive) and security concerns. Virtual offerings solve both problems. Cloud-based HR systems adhere to the latest security and compliance standards with minimal computing requirements, allowing companies to manage their personnel functions from nearly any location.

- **Business-specific tools:** Specialized software for some professions can be cost-prohibitive, including applications for dental and medical practices, accounting firms, law offices, and banks. The list of line-of-business (LOB) applications is quite extensive, but these systems are usually necessary to effectively operate certain businesses. Cloud solutions are more cost-effective and flexible, allowing company employees to update information and carry out their assigned tasks from anywhere with a secure internet connection.

Success Requires Preparation

The cloud may be easy to use and provide tremendous benefits, but like any project, every business should develop a plan before transitioning any critical system. Migration involves the movement of data, templates, and processes from a company's on-premise computer systems to a cloud application, so it helps to understand the methodologies and technologies. Every organization should do a complete system assessment before making significant investments in new virtual applications. Most bring in experienced managed IT services firms to review and address any cloud migration concerns, including:

- **Infrastructure and network deficiencies:** While the cloud uses off-site resources to run applications and store data, organizations still need suitable equipment to optimize the usage of these solutions. Does each business location have adequate internet bandwidth and a robust wireless network? Poor performance will negatively impact the value of most cloud investments.

- **Security:** Every organization needs a set of guidelines to ensure that adequate data protections are in place and that all compliance requirements are being identified and addressed. Businesses should never assume a cloud vendor has those bases covered. For example,

companies like Microsoft and Google design solutions for the masses, not to meet the specific needs or security concerns of every user. That approach can leave high-risk businesses exposed to breaches and other vulnerabilities—yet another reason for bringing in experienced professionals when making cloud migrations.

- **Training:** No matter how small or large the digital transformation, end-users will likely require some level of instruction on any changes. For example, when a company moves from a traditional on-site email service to a cloud application, providing an employee training session can help minimize questions and issues.

- **Support:** Employees will inevitably have issues or questions about their organization's cloud-based solutions. Businesses can usually procure costly support contracts with their cloud suppliers, though not every vendor has the personnel to provide support services. Few organizations can operate effectively without a help desk or with significant gaps in their coverage.

- **Backup and disaster recovery (BUDR):** Cloud solutions should never be confused with cloud storage. While virtual applications contain the latest information, every business is responsible for maintaining its own data. The ability to set up, access, recover, or move information is essential to an effective disaster recovery plan, and organizations are ultimately accountable for meeting all compliance requirements. A properly configured cloud backup/ BDR solution can address all those concerns.

The Remote Work Factor

What business doesn't have at least one smartphone, tablet, or laptop in its IT environment? A trend toward remote working is one of the key reasons cloud computing is on the rise. Mobile devices are becoming more the norm, because they provide employees with greater portability and flexibility over the traditional workstation.

Mobility is transforming work habits and allowing people to be productive from just about anywhere. With a web-enabled device and a secure connection, employees can perform nearly every task in the cloud that they could in their office using a PC. More companies realize the convenience and productivity benefits of using mobile-friendly cloud computing solutions to manage their data today.

Those usage trends illustrate why it's so important that organizations create and maintain forward-looking electronics policies. With so many changes in computing, including advances in the cloud and security, companies have to ensure that their employees are following the latest best practices.

Those standards may include the use of two-factor authentication, virtual private networks (VPNs), and other security and access controls. Creating effective yet easy-to-follow policies is the best way for organizations to ensure their employees follow the rules.

Common Mistakes with Cloud Migration

Proper design and implementation are key to getting the most from a cloud application. When a company purchases solutions with few, if any, customization options or adopts apps that don't address the unique needs of that business, it wastes time and money. Those are costly missed opportunities. Fortunately, organizations can avoid those situations by getting experienced cloud professionals involved right from the beginning of a migration project.

Several issues may occur during these projects. To prevent problems later in the process, organizations should assess each potential cloud solution for:

- **Mobile compatibility:** Can users access the system using their smartphones, tablets, or laptops? Someone needs to test the solution on every type of mobile device the company's employees use—or plan to use in the future.

- **Infrastructure/bandwidth:** What are the limitations? Organizations should complete a comprehensive assessment of all company networks (at every site, including remote offices) and internet providers. Every company should test the performance and features of each proposed cloud solution with various internal workgroups before performing a full rollout.

- **Support options:** Does the cloud supplier offer implementation, training, help desk, and other types of assistance for end-users? What is their availability (i.e., 8 a.m. – 8 p.m. ET, 24/7)? If support options are lacking, can a third-party provider fill any of the gaps?

- **Compliance requirement:** Does the solution meet all applicable industry standards and governmental regulations, or at least not hinder compliance? Where does the vendor store the data (could be in other countries), and what protections are in place? For example, doctors' offices and other medical-type facilities have to follow HIPAA (Health Insurance Portability and Accountability Act) compliance requirements, which requires the implementation of specific data protection measures and adherence to certain privacy best practices.

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Conclusion

The cloud is an invaluable tool for today's businesses. Whether being used in a big company or a single- employee shop, these solutions provide many advantages for any organization, including greater flexibility, mobility, and scalability—not to mention the reduction in capital costs. Those are just a few of the many reasons why the industry experts project the strong growth in the cloud computing market to continue for the foreseeable future.

Business leaders can expect that rising demand to put more pressure on those responsible for researching, designing, implementing, and supporting digital transformation. The complexity

involved in transitioning existing infrastructure and data to the cloud requires a particular set of skills, and with the soaring salaries of professionals with those capabilities, hiring is not a very cost-effective option for most organizations.

IT services firms are a great alternative. Managed services providers (MSPs) understand the challenges businesses face today—from security and compliance requirements to workflow issues and budgeting concerns. With a diverse set of technical and project management skills, these professionals regularly design and execute successful cloud migration plans and tailor support options to meet the needs of each business client.

Of course, MSPs can provide a number of other business-critical services, including network monitoring, data backup, disaster recovery planning, email applications and protection, phone system implementations, and comprehensive support for all those offerings. IT services firms will also cover all aspects of an organization's cybersecurity and infrastructure needs. Cloud migration is just one of many ways outsourced technical professionals bring value to the business community.

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