

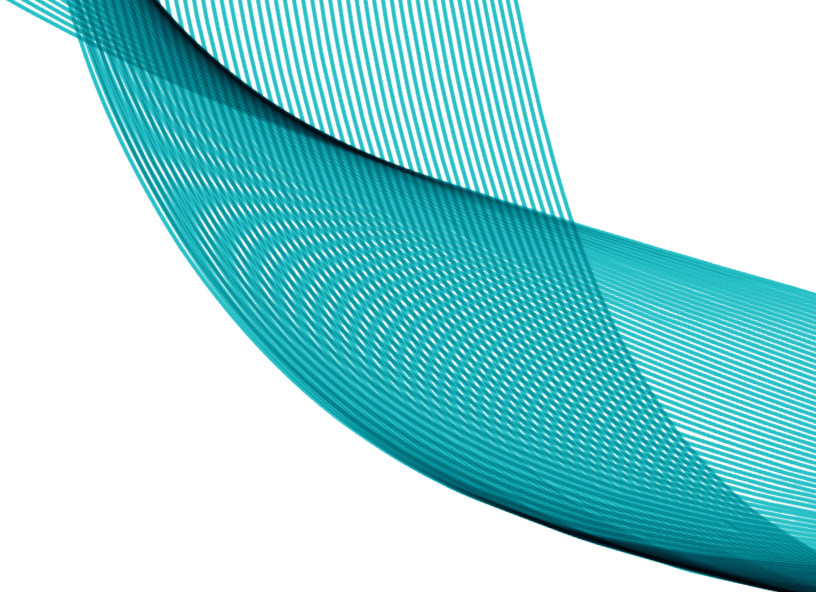
Capitalizing on Your Next Wave of Cloud Migration

Adopting Advanced Technology and Securing Your Success



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Introduction: Exploring the Possibilities of Cloud Migration

Over the past several years, public cloud has become an important part of the CIO's toolkit for IT innovation.

According to Forrester, more than 50% of global enterprises now rely on at least one public cloud platform to drive key initiatives and delight their customers¹. Many of those organizations have been using public cloud as a tactical, reactive tool, lifting and shifting a workload or a development platform as needed. But that approach isn't leveraging the full value of cloud.

Now there is a "next wave" of cloud computing. It's driven by a mindset that goes beyond tactical measures and cost savings. It goes beyond quick fixes and narrow problem solving. CIOs around the world are beginning to think of cloud strategically. They aim to open unprecedented potential for value delivery, for offering something compelling, for thrilling their customers. As they've realized, cloud democratizes technologies like machine learning, microservices, and serverless computing – coping with massive data sets that used to come with intolerable cost and complexity. New technologies stimulate new ideas, which can be translated into new capabilities.

As organizations consider public cloud as a platform for digital transformation, they're evaluating how cloud addresses problems that are hard to solve with traditional technologies.

50%

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They're focused on two key objectives:

ACHIEVING AGILITY AT SCALE

How can cloud accelerate our development, testing, quality assurance, and moves into scaled production for many teams, groups, and applications? How can cloud make us more responsive, able to adapt more quickly? With the right cloud, organizations accelerate time to value, get services to market faster than ever before, at levels that are hard to achieve on premise. The right public cloud helps organizations cope with enormous data sets or performance requirements that cannot be addressed with old paradigms.

DRIVING INNOVATION AT SCALE

How can cloud give us a way to go beyond the limits of old datacenter technologies and on-premise software packages? How can cloud enable richer and more personalized customer experiences? With the right public cloud, organizations can rely on next-generation capabilities including AI, machine learning, and containers, or more focused capabilities like the Google™ Cloud Healthcare API or Cloud Firestore to not only create innovative services today but capitalize on emerging technologies. Choosing the right cloud unlocks future innovation.

With public cloud capabilities that are always emerging and being perpetually enhanced, organizations have a new toolkit for producing better business outcomes.

The possibilities and potential are endless and exciting, and becoming a nimble, innovative organization becomes a compelling opportunity. Having said that, most organizations face challenges in seizing this opportunity they aren't equipped to handle.

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Exploring the Challenges

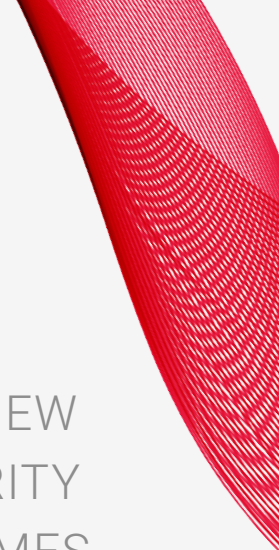
Consider this problem. If an organization is trying to move toward a strategic, impactful, cost-effective public cloud implementation, inevitably, it will be migrating IT initiatives to the cloud. And that migration isn't always straightforward.

Choosing the right technology matters, of course. However, many organizations discover that picking the right technology (or technologies) is the easy part. Their challenges often have less to do with technology, and more to do with human factors and organizational limitations that impede agility, limit innovation, and increase costs.

One of these is the **traditional IT emphasis on moving slowly**. Traditional IT organizations rely on processes and procedures that are often highly structured, cumbersome and risk-averse. Provisioning a new server can take weeks and major initiatives can take years. That's a proven approach for legacy IT and has been for decades. It's designed to boost resilience, not necessarily business outcomes. It emphasizes risk reduction, cost reduction, and predictability.

As organizations pursue digital transformation, they need to accelerate time to value, speeding application service delivery to innovate and compete. They need to deliver services that deeply impress their customers. The new priority becomes breaking through barriers to agility. While traditional IT approaches are designed to mitigate risk, they tend to block or restrict "better" approaches like CI/CD, DevOps, Lean and Agile methodologies – ones that are often needed to bring innovative capabilities to market. A conflict emerges that's hard to resolve.

To make matters worse, many large organizations are organized by department instead of by value stream. It's rare for the IT department to share the same goals as the development team. This leads to siloed resources and conflicting priorities that



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constrain development teams and delay implementation, scaling, and consistent improvement. Indeed, **mismatched departmental goals limit agility at scale and innovative service delivery.**

And there are more fundamental forces at play. Shifting to cloud often causes fear, uncertainty, and doubt, particularly in less progressive organizations or among mid-career or late-career IT professionals. **Change is hard, and coping with demands for new technologies -- being forced to add new skills sets -- almost always stimulates individual and institutional resistance.** Losing control becomes a worry. There can be a steep learning curve. The old “not invented here” mindset combines with the “risk reduction” mindset to stimulate real opposition to an emerging cloud strategy. Add a departmental structure that can’t get past the idea that there won’t be one team for servers, one team for networking, and one team for storage – and internal resistance delays or destroys forward progress.

Finally, organizations struggle with security. **Extending security to the cloud isn’t intuitive.** It requires planning, thought, new technologies, tools and techniques. It takes an understanding of regulatory compliance that many cloud vendors can’t supply. Though public clouds are built to be secure, often delivering higher levels of security than on-premise corporate data centers, security planning for both on-premise and cloud resources requires new skills, new thinking, and new structures – just the elements a traditional IT organization wants to resist.

All these issues must be solved for cloud migration and digital transformation to succeed. But none of them are easy.

So, what’s to be done?

CHALLENGES OF MIGRATING IT INITIATIVES TO THE CLOUD.

- Traditional IT emphasis on moving slowly
- Mismatched departmental goals
- Individual and institutional resistance to change
- Security to the cloud isn’t intuitive

Achieving the Possibilities

As we evaluate leading organizations and observe efforts, we see four shifts in a successful public cloud migration. These shifts are foundational -- necessary for organizations to succeed. These four shifts are:

1

ORGANIZATIONAL COMMITMENT

Without focused commitment, innovative thinking and a top-down understanding of the vision, strategy, and tactics needed for cloud migration, initiatives are doomed to fail or prove disappointing.

2

LEADING CHANGE

Organizations must engineer shifts in people, processes, procedures, basic expectations, budgets, and skills to succeed. Supporting and sustaining transitional momentum becomes a daily practice. Buy-in is critical. Redefining departmental structures and resolving resistance to change become chief concerns for the CIO and other leaders.

3

EXPERIMENTATION CULTURE.

Organizations must shift from a risk averse mindset to one that embraces experimentation. It's critical to gain a new comfort with failing fast while minimizing the size of failure. Cloud helps accelerate that shift because it's quick and easy to create sandboxes and test environments where containable failures are encouraged, and success can be quickly confirmed. Some organizations explore managed services and leverage cloud elasticity to address scale, create safety nets and improve comfort levels.

4

LEVERAGING EMERGING CLOUD TECHNOLOGIES.

The best platforms, like Google Cloud, have leading-edge technologies they've developed and proven internally. Once rolled out to customers, organizations can move toward the leading-edge by shifting to managed services or PaaS and adopting capabilities including microservices, containers, machine learning, AI, and Big Data.

These shifts may seem daunting, but with the right support, they don't have to be.

Choosing the Right Partner to Secure Success

When we talk about support, what do we mean? Many large organizations need the help of an established, experienced partner who leads, accelerates and sustains large-scale cloud migrations every day. However, finding the right partner isn't easy.

Choosing the wrong partner can result in missteps, delayed time to value, higher costs, and even, as Nextgov points out, a nearly 1 in 2 chance of a failed cloud migration².

To ensure you're choosing the right partner, consider these ten characteristics of a trustworthy cloud migration advisor:

1. LEADS ENTERPRISES WITH VISION AND EXPERTISE

Many IT consultants spend their time and energy on mid-market sized organizations, and relatively few have a track record of building a cloud strategy, working through technological and practical issues, and have the know-how to get things done in a Global 2000 company. You need partners that understand large companies, who can help you imagine the desired state and plan a move that's right for you. Engaging with the C-suite, avoiding analysis paralysis, dealing with red tape, ensuring the plans of decision-makers fully engage IT, conveying the vision and digging into technical complexities are all essential – critical competencies many consultants lack.

2. DEFINES GOALS AND SETS LIMITS

Your partners need to work across organizational divisions and departments to identify priorities and challenges. Defining priorities and limits for the organization leads to striking a balance among risks, costs, and benefits. Goals that are too small or too large run the risk of limiting, delaying or destroying the benefits of your cloud migration.

10 CHARACTERISTICS OF A TRUSTWORTHY CLOUD MIGRATION ADVISOR.

1. Leads enterprises with vision and expertise
2. Defines goals and sets limits
3. Spans boundaries and connects teams
4. Chooses the right technology
5. Applies innovative thinking
6. Manages migration and transformation
7. Supports rapid climbing of the learning curve
8. Drives learning and improvement over time
9. Addresses security and compliance
10. Measures, reports and confirms success

3. SPANS BOUNDARIES AND CONNECTS TEAMS

The old departmental IT framework must change in a world of cloud. Most large organizations working toward a value-stream oriented organization see the most success; cross-disciplinary teams building on design thinking and oriented on application service delivery drive the impact your organization needs. That change isn't a trivial one. You need partners who can help identify quick wins, long-term goals, critical requirements, and can help lead through an often-complicated transition. Getting everybody in the same room, encouraging empathy, sharing the same goals and having executive support to change processes are key steps to accelerating progress and breaking down resistance.

4. CHOOSES THE RIGHT TECHNOLOGY

We live in a world with many public clouds, each bringing strengths and weaknesses. Your partner understands the global cloud ecosystem in detail and thus can bring perspective to the table. Your partner should help you choose the right cloud, platform, toolsets, and analytics to align with your vision, strategy, and your short- and long-term goals. The goal here is to help you fully leverage the power of a platform that offers what you need. You need a partner with strong technology skills -- years of experience with a cloud like Google, mainframe expertise, teams focused on machine learning, IoT, blockchain and other emerging capabilities.

5. APPLIES INNOVATIVE THINKING

Cloud migration relies on, as much as anything, applying new mental models to problems. It's hard for large organizations to do that without help. Applying tools like lean transformation and design thinking to your problems can deliver measurable advantages. Stripping out non-essential requirements, working creatively with constrained resources, continuously improving, and designing a migration that's designed for the customer, not for your organizational requirements, pays dividends as you progress.

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chance of a **failed cloud migration.**

6. MANAGES MIGRATION AND TRANSFORMATION

Managing the technological migration isn't easy and it's a skill many organizations don't have. Your partner helps you make choices, application by application, service by service. You'll be rehosting and re-platforming some applications, repurchasing others. Your organization will need to refactor or re-architect some applications for cloud. Other applications will be retired or retained on legacy infrastructure. These are changes that occur as your teams are learning to develop new applications on a new platform with new tools and techniques. You may be building a hybrid environment to leverage some on-premise resources. You need a partner that balances all the needs, sets incremental goals, defines objectives and key results, builds roadmaps that take you from the current state to the future state, workload by workload, site by site, and makes the most of the change.

7. SUPPORTS RAPID CLIMBING OF THE LEARNING CURVE

As you know, upskilling your staff isn't easy, and it's often costly and time-consuming. If you can't upskill, you'll be forced to find and hire new highly skilled personnel in a competitive market. Many existing staff will be frightened by a cloud migration plan because they'll think their jobs are on the line. A good partner understands these problems and has strategies to mitigate them. Instead of outsourcing your competency development, dealing with the learning curve often comes down to having a good partner who lives in your organization, embeds themselves in your teams, and insources expertise and knowledge transfer. Your teams grow more comfortable with new technologies and new approaches because, day by day, they're standing next to experts who can help. Your staff learn by doing.

8. DRIVES LEARNING AND IMPROVEMENT OVER TIME

With cloud migrations, iteration improves outcomes. Many organizations begin with quick and easy wins, then pursue harder tasks. Initial changes bring initial improvements. As time goes by, your organization and your partner will uncover unexpected opportunities for improvement. They'll see new ways to build on the first round of changes. Having a partner that understands Lean methodology helps you establish a culture of continuous

improvement. Your partner stays attuned to change, conveys insights across your organization, both horizontally across teams and vertically to executives, and leverages incremental improvements to uncover and deliver additional business benefits.

9. ADDRESSES SECURITY AND COMPLIANCE

It's easy to underestimate the complexity of shifting to a security model that encompasses cloud workloads and cloud data sets. Your partner must be an expert in security, both in best-in-breed strategies and understanding the unique capabilities that come with the cloud you choose. They must be conscious of your unique regulatory and compliance requirements, whether PCI compliance or HIPAA compliance. They need to have relationships with third-party security technology vendors and understand the importance of penetration testing. Ultimately, they need to safeguard your organization's data, services, employees and customers.

10. MEASURES, REPORTS AND CONFIRMS SUCCESS

Finally, your partner should be an expert in reporting outcomes and communicating effectively. They'll be standing next to you, day by day, month by month, to help you stay in touch with all the changes, see the problems and improvements, and benchmark your progress against industry norms. They'll help you, and your teams, see what success looks like and celebrate wins as they come.

Conclusion: From Migration to Transformation

Migrating to cloud is an exciting move. It creates new possibilities and potential that other IT strategies struggle to match.

However, it comes with challenges as well. The right partner helps accelerate the shift from a complex set of tasks to a fully realized, effective, beneficial cloud migration that enables your digital transformation – giving you the capabilities you need to realize agility and innovation at scale.

Ensure your cloud migration isn't just a shift to a new technology, but a chance to catalyze new ways of thinking and produce better business outcomes. With the right partner at your side, you can fully capitalize on this next wave of cloud migration – delivering outcomes and performance levels that exceed all expectations.

To learn more about solutions
from CI&T and Google Cloud, visit:
www.ciandt.com/gcp/ciandtgooglecloud

1 <https://www.forrester.com/report/Predictions+2018+Cloud+Computing+Accelerates+Enterprise+Transformation+Everywhere/-/E-RES139611>;

2 <https://www.nextgov.com/cio-briefing/2016/03/report-almost-half-it-migrations-doomed-fail/126574/>