

The complete cloud

Creating and preserving cloud savings, security and service quality through transition planning and service management

ABOUT THIS PAPER

Creating and preserving cloud infrastructure savings, security and service quality requires active engagement by clients and their qualified cloud providers to prevent erosion of the benefits that drew them to the cloud in the first place.

This paper is intended to help clients realize even greater value from the cloud—and avoid value erosion—by planning and managing cloud solutions holistically through solid transition planning and automated service management, not just technology management.

Learn the key success factors for a complete cloud approach based on CGI's experience and expertise in successfully transitioning clients to the cloud.

With cloud computing, it's estimated that IT services can be delivered on demand for less than 50 percent of the cost of traditional delivery. The cloud also promises the following benefits:

- Greater transparency for planning and continuous improvement
- Better support for data-driven decision making and collaboration
- Greater flexibility to meet rapidly changing business needs
- Verifiable performance measures
- Reduced risk and improved security

Creating and preserving cloud infrastructure savings, security and service quality, however, requires active engagement by clients and their qualified cloud providers to prevent erosion of the benefits that drew them to the cloud in the first place.

Easy access to cloud Infrastructure as a Service (IaaS) offerings by individual users and programs makes it difficult for organizations to track and manage those services holistically. Today, users can learn from lessons of the past to prevent their cloud services and costs from spiralling out of control while also ensuring their systems run smoothly, their data remains secure and their service levels are maintained or improved.

Key success factors for a complete cloud approach include the following:

- Effective service management to ensure that critical processes are followed and that they deliver savings, security and service quality
- Automating service management to provide the greatest value
- Well-defined service levels that embed savings, security, service quality and scalability for the life of a cloud service
- Solid transition planning and implementation to maintain secure operations and prevent hidden costs

Identifying the services required to get to the cloud

Seek service, not just servers

Good service management requires significant discipline to ensure compliance with a client's standards, policies and objectives. In fact, poor service management is often the root cause of user dissatisfaction with traditional IT.

Typical "commodity" cloud offerings only provide a physical infrastructure and do not include service management. They essentially follow a least-cost model that assumes clients will read the documentation, learn the provider's unique language and determine how to plug the services into their organization's environment.

This “read the fine print” approach is not viable for most organizations that require support for analyzing, developing, deploying and troubleshooting their solutions. Enterprises should not turn to cloud computing with high hopes of saving money on infrastructure and labor, only to take on time-consuming and expensive management and integration tasks. Seeking cloud solutions that include service management can fill the gap.

An important first step is to identify all of the service management components—including staff and equipment—that are needed to move an application to the cloud.

Key service management disciplines include the following:

Discipline	Purpose
Access Management	Who can use the cloud
Capacity Management	How much to buy and how to control it
Change Management	How to control changes without disrupting operations
Release & Deployment Management	How to control what gets added to the cloud
Configuration Management	Know what you have in the cloud
Event Management	Know what happens in the cloud
Incident Management	Know when something is broken and how to fix it
Knowledge Management	Know where all of the information is about your cloud
Security Management	How to protect your enterprise and your data
Service Level Management	How to get the performance you need
Request Fulfillment Management	How to handle user requests

Clients also can decide whether they want to manage multiple components and service providers or have a qualified partner manage their cloud services on their behalf. A full-service cloud provider can deliver the personnel, management oversight, tools and processes to support the IT infrastructure and also manage the security and other services for applications running on that infrastructure. Having the cloud provider manage these services frees internal resources to focus on other mission priorities.

Automating service management

Automated service management for cloud computing is an imperative. Embedding processes into the system removes the burden of enforcement and provides an easier path to adoption. By choosing the right cloud provider, enterprises can achieve best practices in IT service management and still deploy to the cloud quickly.

ITIL: The gold standard of service management

“The primary objective of Service Management is to ensure that the IT services are aligned to the business needs and actively support them...If IT processes and services are implemented, managed and supported in the appropriate way, the business will be more successful, suffer less disruption and loss of productive hours, reduce costs, increase revenue, improve public relations and achieve its business objectives.”

The Information Technology Infrastructure Library (ITIL) is a public framework that describes best practices in IT service management.

Source: *An Introductory Overview of ITIL V3*
(<http://www.itsmfi.org/content/introductory-overview-iti-v3-pdf>)

_experience the commitment™

Lesson learned: The costs of technology without service management

Virtual sprawl is the proliferation of virtual servers without adequate IT control. Several years ago, when an enterprise found it had more than 5,000 virtual machines in its data center, it decided to learn which were no longer needed by shutting them down. The result: 70% were found to be obsolete but still consuming resources and software licenses. The virtual machines were so easily generated, IT had trouble tracking how many there were, and when and where they were deployed.

Fast-forward to the cloud. A U.S. federal government agency responsible for one of the largest federal websites is having a similar experience. Due to a lack of governance, it cannot track who created what server and whether a server is still necessary. As a result, the agency is paying more and more each month for services, eroding the savings derived from the economies and elasticity of the cloud and leaving it questioning whether it is getting any value for its money.

Setting service levels that matter

Purchasing an infrastructure separately from applications makes measuring business value more difficult. As a solution, clients can develop metrics to show the availability and performance of their business-related systems, not just the availability of the underlying infrastructure. They can also benefit from service levels that apply to both the infrastructure and the applications, regardless of who provides them.

Key service-level considerations for each system a client plans to run on a cloud infrastructure include the following:

- How critical is the system?
- What are the acceptable availability, recovery time and recovery point objectives?
- What are the performance characteristics and needs of the system?

Clients can compare their needs with the service levels offered by cloud providers to determine which will meet their requirements.

Transparency is vital in all managed services relationships—and the cloud is no different. Users may require a high level of transparency into the cloud infrastructure via detailed documentation of how service level agreements are met, as well as access to the provider's incident and change systems and security event details.

Solid transition planning

Control operational and security risks in moving applications

Once a client has determined what systems it wants to move to the cloud, the next challenge is to ensure the move happens without service interruptions or security breaches. This process is called “transition.” Transition requires a disciplined, step-by-step and low-risk planning approach that includes a solid business case for each move involved. Data can be gathered to determine the best approach, including whether and how to phase the transition (similar to a traditional managed services project).

Areas of transition to be addressed include the following:

- Migration of the system
- Migration of the data
- Ongoing operation and support of the system

Guidelines for setting service levels

- ✓ Distinguish between service levels, service requirements and reporting requirements
- ✓ Ensure service levels represent business impact
- ✓ Measure outputs not inputs
- ✓ Set service level targets that are achievable, measurable and auditable
- ✓ Distinguish between desired and contracted service levels
- ✓ Keep service levels to a number that is reasonable for the user program manager to manage
- ✓ Ensure service levels reflect risk associated with contract terms

“Cloud Infrastructure as a Service (IaaS) providers differentiate themselves based on the quality of their service and support. Buyers must pay close attention to these aspects, as they are among the most significant contributors to the cost and agility of the solution.”

Gartner

Source: “Cloud IaaS: Service and Support Models,” Lydia Leong, March 8, 2011, ID Number 00210094, page 1.

- Responsibility for each aspect of the system (If a client has different vendors for software, infrastructure, modifications and integration, how will their separate but tightly coupled responsibilities be synchronized?)

A solid transition process should reflect a keen understanding of the nature and purpose of the system and include the following:

- **A well-defined project plan** that is approved by the client with a clear beginning and end, a relatively short timeframe, and key client-acceptance milestones
- **Clearly identified transition leadership** for both the client and the cloud provider, with project management from the provider that is separate from service delivery management
- **A formal policy and common framework** for implementing all required changes so that no services, stakeholders or events are missed, and service failures are prevented
- **A well-defined knowledge acquisition/knowledge transfer plan** that ensures the right person has the right knowledge at the right time to deliver and support the system

Full-service cloud providers also can help identify, manage and control the risks of failure and disruption across transition activities. In addition, they may be willing to wrap the price of transition into predictable cloud usage fees.

Conclusion

A holistic approach to technology management, service management and transition implementation is necessary to realize the full promise of the cloud. Users can maximize savings, security and service by choosing providers with the capability and know-how to provide a complete cloud approach. When evaluating cloud providers, businesses will benefit from asking the following:

- Does the provider follow ITIL, the gold standard of service management?
- Has it automated service management within the cloud solution?
- Can it extend service management processes to the applications to encompass the entire solution?
- Does it offer additional services, such as management support and operational and maintenance services?
- Can it perform the needed migration and transformation?
- Does it have experience with complex business environments?
- Does it offer a flexible transition approach that aligns to business program objectives, constraints and cloud-readiness?
- Can it leverage the inherent savings of the cloud to spread costs over the life of the service, to reduce the TCO and to eliminate upfront transition costs?
- Does its service level agreements meet the needs of the business system?

In short, clients can achieve strong security and maximize savings by seeking recognized vendors with ITIL-based service management that is woven into an

“...all cloud IaaS offerings are not created equal, despite superficial similarities in the way the offerings are described. There is considerable variance in service provider design goals, the quality of technical implementations, and the cost-effectiveness and value for money of those implementations.”

Gartner

Source: “Cloud IaaS: Service-Level Agreements,” Lydia Leong, March 7, 2011,

ABOUT CGI

At CGI, we're in the business of satisfying clients. A leading IT and business process services provider, CGI has 31,000 professionals operating in 125 offices worldwide.

Working in partnership with clients for 35 years, CGI has extensive experience in all aspects of IT management, from consulting and systems integration services to the full management of IT and business functions (outsourcing).

This know-how puts us in a unique position to help clients successfully transition to the cloud. We work with organizations of all types to select the right combination of cloud services and solutions to make their journey a success.

To learn more, visit us at www.cgi.com/cloud or contact us at info@cgi.com.

automated framework, solid transition planning capabilities and experience, and service level agreements that match business needs for availability and performance.

Why CGI

CGI's decades of IT experience and broad global infrastructure management expertise helps deploy on-demand, cost-effective and secure cloud services. Our \$1 billion infrastructure business encompasses world-class data centers and IT equipment, allowing clients to delegate entire or partial responsibility for their IT functions. We follow global best practices in service management and transition planning to ensure that clients get results they can count on.

Here are just a few reasons why CGI is a partner you can count on:

- More than 180 CIOs rely on us to provide efficient, secure and reliable technology infrastructure services to run their businesses.
- Our extensive qualifications in hosting and transitioning complex systems include financial systems management for more than 50 U.S. federal government agencies and more than 100 enterprises.
- We're experts in applying our experience and innovation across a wide range of businesses and industries.
- We're agile, flexible and technology independent, working with today's existing infrastructures and providing scalability for tomorrow's requirements
- CGI is a member of the board of directors for the Uptime Institute™ and a member of The Green Grid®.
- Our data center services have received industry recognition, including a "strong positive" rating within Gartner's 2010 "MarketScope for Data Center Outsourcing, North America" research report.

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CGI's ITIL v3-based processes and tools provide a cohesive set of best practices for IT services operations. Our thought leadership in service management has evolved into a fully integrated solution that enables IT organizations to quickly adapt to market needs and effectively support business priorities.

As a full-service cloud provider, CGI provides infrastructure, service management, transition, training, help desk and cloud integration and consulting services. In addition, as an industry-leading managed services provider, we can blend cloud solutions with traditional infrastructure services to accommodate your needs.

With CGI, you do not have to worry about gaps in your service. We have what it takes to make your applications and infrastructure work in the cloud. To learn more, visit us at www.cgi.com/cloud.