10 STEPS TO SUCCESS WITH PUBLIC CLOUD ADOPTION
Introduction
You can’t ignore it anymore – cloud is no longer an option, it’s a requirement. Your cloud program is the single most significant technology shift your company will face over the next decade. However, getting to the cloud requires much more than following a few best practices. Supporting this shift in technology requires re-thinking – both culturally and operationally.

The success of your first cloud project depends on assembling the right experience, tools and processes necessary to execute the move successfully. We’re big fans of the Cloud Technology Partners (CTP) framework when it comes to public cloud adoption. This guide walks you through ten best practices and resources – from Rackspace and CTP – to support your successful transition.

1. Get on the same page. Bring your stakeholders together. Put all the right people in the room. One of the biggest barriers to an adoption project can be building the right cloud culture. Start with a kickoff meeting to align expectations, address concerns and build momentum around the cloud adoption project. CTP recommends – and Rackspace agrees – that the following roles attend this meeting:

   • Executive Sponsors – These may be from the below groups or from the C-suite, such as CTO, CIO and CEO wherever possible.
   • Application Owners – Business units, development teams
   • Security – CISO, SecOps people
   • GRC – Governance, risk and compliance experts
   • Finance – Procurement, risk and governance experts
   • Lead Architects – Cloud and existing infrastructure leaders
   • Database – Lead DBAs, data architects
   • Central IT Operations – Leaders, key department heads, networking specialists
   • Cloud account manager

At the end of this step you should:

   • Have buy in on your cloud initiative across the business
   • Understand the most pressing business needs that the cloud can solve

2. Set priorities. With everyone rowing in the same direction on your cloud initiative, prioritize applications for suitability and desirability for the cloud. Resist the urge to select a low value, non-critical application to reduce risk on your first cloud project. Instead, look at mission-critical applications with a big impact. In doing so, you’ll have an opportunity to deal with cloud adoption complexities upfront and gain lessons that will guide you as you move the rest of your applications. By choosing a high value app, you also have an immediate opportunity to post a win.

As you set priorities, you can approach on an app-by-app basis (move email and collaboration) or use application categories (high value/low security, low/value/high security) to guide your move. As you work through this step, pay special attention to app dependencies. Though you may be anxious to move inventory management system, backend dependencies may create an added layer of complexity to consider.

At the end of this step you should:

   • Have a methodology for selecting cloud-ready applications (see #6 for selection criteria)
   • Know the prioritization of applications or categories to move to the cloud
   • Verify organizational buy-in on the prioritization

3. Create a Cloud Business Office. The newfound flexibility and capabilities of a cloud program will create a lot of questions and concerns before, during and after rollout. To reduce the confusion, establish a permanent operational and governing body as the central point of decision-making and communication. Both CTP and Rackspace recommend setting up a Cloud Business Office as a way to centralize all things cloud within your business.

This team will have the ultimate responsibility for directing and guiding all aspects of your cloud program, from the first implementation through ongoing operations. By assigning dedicated resources for support and direction, the business is more likely to take the cloud program seriously. The size of your communications team should be in line with the size of your cloud implementation.

According to CTP, a mid-sized organization’s Cloud Business Office might look like this:

<table>
<thead>
<tr>
<th>FULL-TIME ROLES</th>
<th>PART-TIME ROLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily responsibility for cloud adoption, implementation and management.</td>
<td>Vested interest in the success of the cloud program and/or need visibility into the process.</td>
</tr>
<tr>
<td>- Cloud Program Leadership</td>
<td>- Legal and Risk Leaders</td>
</tr>
<tr>
<td>- Technical Operations Leadership</td>
<td>- HR Leaders</td>
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<tr>
<td>- Chief Architect(s)</td>
<td>- Procurement</td>
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<tr>
<td>- Security Operations Leadership</td>
<td>- IT Finance</td>
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<tr>
<td>- Business Units (during onboarding)</td>
<td>- Application Owners</td>
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<tr>
<td>- Business units (post-implementation)</td>
<td></td>
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</table>

To ensure cloud technology investments are used to their fullest extent, enterprise organizations may need to add or create new roles to fill out their Cloud Business Office. Before you start recruiting, engage with your cloud provider to investigate the services and capabilities they offer. For example, instead of hiring a dedicated security operations professional, lean on a managed security service with your provider.

Additionally, your fully staffed Cloud Business Office requires a new set of processes. Compared to traditional environments, the cloud will inevitably require fewer resources for management and operations. As a result, the following processes may need to be combined or eliminated. Some examples from CTP include:

   • Project management
   • Technical decision making
   • Application onboarding
   • Technology training
   • Risk management
   • Change management and training
   • Financial and operational governance
   • Vendor management
At the end of this step, you should:

- Have the size of and required roles for your Cloud Business Office defined
- Understand the capabilities and services your cloud provider can supply
- Be clear on the spheres of responsibility between your provider and internal team

### 4. Build the business case.

Your cloud program proposal hinges on your ability to demonstrate value by assessing cloud TCO against your existing environment. Though it may already be agreed that cloud is the right direction, best practices advise crunching the numbers to understand exactly why it’s the right idea.

The value of your cloud program reveals itself in both the tangible bottom line dollars saved, as well as the more intangible ways like speed to market, enhanced communication and shorter procurement cycles. As you dive into your cloud economics, we recommend separating hard and soft benefits. According to Rackspace and CTP, the hard, quantifiable benefits should include:

- Hardware and networking costs
- Planned and unplanned downtime costs
- Upgrade costs
- Disaster Recovery / Business Continuity costs
- Service Level Agreement (SLA) penalties
- Deployment costs
- Day-to-day operational support costs
- Performance costs
- Costs of selecting vendor software
- Requirements analysis costs
- Developer, administration and end-user training costs
- System integration costs
- Quality, user acceptance and testing costs
- Application enhancement and “bug fixes” costs
- Physical security costs
- Legal, MSA, and contracting costs
- Replacement and take-out costs

When calculating intangible benefits, consider:

- What is the impact of productivity in hours saved?
- How much value does accelerated application development add?
- Can you measure the impact of faster software lifecycles?
- How much do human error and outages cost your organization?
- What is the value of reduced risk of security breaches?
- Can you quantify the value of increased job satisfaction?

Calculating these metrics may take some digging, but will allow you to clearly understand the expected outcomes, communicate them to stakeholders and benchmark the future success of your program.

At the end of this step, you should:

- Document all metrics and information sources used to demonstrate value
- Have a concise document detailing both hard and soft benefits to present to stakeholders as needed
- Create a plan to reassess and revise as project progresses

### 5. Assess your environment.

Now that you have everyone on the same page, your priorities are set, the Cloud Business Office is ready, and the business case is built out, it’s time to move ahead. Assessing your environment gives you full visibility into what’s under your hood. In modern business, no app is an island. Whatever you move will inevitably impact another moving piece. Even between clouds, there will be tuning needed to make a multi-cloud or hybrid cloud work together. An audit will reveal these gotchas before they derail your cloud program.

At the end of this step, you should:

- Document all metrics and information sources used to demonstrate value
- Have a concise document detailing both hard and soft benefits to present to stakeholders as needed
- Create a plan to reassess and revise as project progresses

### 6. Pick your beta cloud project.

You'll need a basic set of services to underpin your cloud environment regardless of the beta application chosen. As such, your beta cloud project will include two pieces:

- Hub: Holds all of the common services needed by your users and managed by IT operations. These services include:
  - Logging and Monitoring (centralized)
  - Identity Access Management (IAM)
  - Encryption Tools and Key Management
  - Security Services such as IPS/IDS/WAF
  - InfoSec (Security Operations Center)
  - Image Management and Repositories
  - Automation and Templates (e.g., Chef, CloudFormation, etc.)
  - Networking Services to On-Prem Resources
  - Financial Controls, Chargeback and Billing
- Spokes are a set of applications that belong to a specific owner or business unit including:
  - Physical cloud accounts (such as an AWS customer account)
  - Supporting VPC(s) needed to run the application(s)

Once a time-intensive, laborious process, mapping and profiling your environment can now be done with a few simple tools. This leaves you to focus on the work of analyzing your application map, understanding data volume between applications and identifying critical dependencies. The Rackspace Professional Services team uses product-native tools to audit the customer environment.
Once you've identified your Hub and Spoke elements, arrange them to logically and physically connect common services from the Hub for consumption by the Spokes. You should have a diagram that looks something like this:

The selected application should both be a business critical application with broad stakeholder interest and be designed to serve stakeholders are expecting.

If you didn't execute on getting everyone on the same page earlier, here's where it may sting. Without proper alignment and prioritization, you could encounter clashes between the necessary Hub elements and the expected Spoke elements that business units and stakeholders are expecting.

The guidelines for selecting your beta Spoke:

- Holds mission critical data. An application with sensitive data used across the organization gives your program more visibility and impact. Instead of shying away from sensitive data, meet it head on. Address and resolve it early in the adoption program.
- Runs on 10 or less servers. Attempting to move a monolithic application isn't your goal. Look for applications that are "manageable, but meaningful." The more servers involved will increase the time and complexity of the move.
- Lifts and Shifts. For a faster, smoother launch, avoid applications that require refactoring or rewriting. Seek out applications with an OS and database services supported by your cloud provider. Not only can your provider better support your move, but they can also provide guidance and expertise from their experience working with the technology.
- Involves motivated application owners. Without champions pushing for resources and budget, your cloud program may never get the legs it needs to stand up. Just as important as picking a high visibility application, you also need strong leaders to stand up for the program and make it a business priority.

At the end of this step, you should:

- Identify the elements for your cloud Hub elements
- Solidify the requirements of the Spoke beta application
- Marry HUB and Spoke needs and addressed obstacles

7. Determine security stance. Despite the maturity and proven security of public cloud environments, it remains a top concern for business. Your security stance will be a partnership with your provider. Even though your provider is managing your cloud, you will still have some responsibilities with respect to security.

For Rackspace customers, the shared security model looks like this:

We use a Secure by Design (SbD) approach with a four-phase implementation process for AWS and Azure clouds:

- Phase One: Outline the security policies you want to implement and then document the controls you inherit from AWS or Azure and the controls you own and operate on your workloads. This enables you to decide on what security rules you want to enforce in your environment.

At the end of this step, you should:

- Know the security and compliance needs of the beta project
- Have integrated any security offers/services from your provider into your plan
- Decided on the security tools and processes to be implemented

8. Detail ongoing governance measures. Your program needs to account for changes as new applications are added and as regulations and the business climate change. In addition, to protecting your environment, your GRC (Governance, Risk and Compliance) controls drive cost efficiencies. Instead of spending resources to constantly monitor and adjust controls, we recommend implementing continuous compliance. A continuous compliance approach includes the software and procedures designed to proactively protect your environment from errors, unplanned changes or compliance threats. These tools allow you...
to build a set of checks and balances to maintain governance across your entire cloud environment.

The Rackspace approach to continuous compliance is wrapped into our Managed Security offering that includes assistance with setup and ongoing management for compliance and governance requirements.

At the end of this step, you should:

• Understand your GRC requirements and goals
• Solidify your continuous compliance plan
• Determine the tools and processes needed for continuous compliance

9. Implement automation: Repetitive processes for implementation and deployment are the foundation of your cloud program. This means adopting a DevOps methodology. At the core, there will be the runbooks or automation templates that determine common services, governance rules, tagging scenarios, metadata, VPC, IAM roles, image repository and a host of common services delivered from your Hub.

During the implementation process, Rackspace works with customers to create a customized runbook for their environment. This runbook defines our standard operating procedures for monitoring alerts and includes custom escalation procedures in accordance with best practices and your business needs. The runbook saves precious time in case of an incident with pre-defined actions detailed, reduces human error with code-driven deployments and ensures the implementation of the operational governance policies.

At the end of this step, you should have:

• Clarified your automation goals
• Selected devops tools and services to support automation goals
• Have runbooks or templates built to support future deployments

10. Execute migration: There are some parts in the cloud migration process that can be done on your own, however others are complex. For those parts, lean on professional support to augment your team and provide the guidance and expertise you need for a successful migration.

At Rackspace, we use the six-step migration methodology below:

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Each piece of our migration framework aligns with the ten steps laid out in this whitepaper. The framework is customized around the unique needs of your migration.

At the end of this step, you should:

• Have a fully migrated beta cloud project
• Tested migrated elements to confirm proper operation
• Start planning for the next application to move to cloud

For more information on our professional services for IT transformation and cloud migration, visit https://www.rackspace.com/en-us/professional-services

If you would like to learn how Rackspace experts help you get the most out of your chosen cloud technology visit:

https://www.rackspace.com/aws
https://www.rackspace.com/microsoft
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