

A man in a dark blue suit, white shirt, and grey tie is looking down at a tablet computer he is holding with both hands. He is wearing black-rimmed glasses and a watch on his left wrist. The background is a blurred office setting. On the left side of the image, there is a semi-transparent blue mesh overlay.

CIOs' Definitive Guide to Safely Migrating Applications to the Cloud



Deciding to move on-premise applications to a cloud environment is riddled with complexities—especially at the enterprise level. So, before you dive into the details of a cloud migration, make sure you have a well-thought-out plan based on your company's unique business needs and IT structure.

This eBook will give you a macro view of the complexity of application migration and is divided into three sections:

- **Rationale:** Summarizing the advantages of migrating applications to the cloud.
- **Discovery:** Analyzing business challenges and IT infrastructure, choosing the right apps to migrate, and establishing priorities for which ones go up first.
- **Implementation:** Maximizing benefits of a cloud transition while reducing risks and reigning in expenses.

Rationale: Reviewing the business case for cloud app migrations

All cloud services share a core appeal: getting their clients out of the data center business, swapping CapEx for OpEx, and streamlining a broad range of IT tasks with a cloud provider that configures, manages, and updates hardware and software.

These advantages help enterprises in five ways:

- **Agility.** In the cloud, your IT people no longer have to specify, order, receive, install, and configure hardware every time you add or upgrade an application. If you have to iterate an app, you can push out new code quickly without on-premise hardware hang-ups.
- **Scale.** Cloud app functionality can scale up or down to match the seasonal swings of your business. When the load on a cloud app grows or spikes, adding compute cycles, storage, and bandwidth is just a few mouse-clicks away (or instant, with auto-scaling).
- **Cost.** Because you pay only for the cloud resources you use, there's no outlay for hardware capacity you don't need. You can say goodbye to overprovisioning in anticipation of future growth or unexpected traffic surges.
- **Convenience.** On-premise apps may require multiple logins, depending on the division of a company or the version of the software installed. A cloud-hosted app has one, single sign on, simplifying the lives of users and IT administrators alike.
- **Focus.** Sending apps to the cloud streamlines and centralizes IT operations, which frees up the in-house IT team to focus on core marketplace challenges.

When you're clear on what you can get from cloud-hosted apps, you have a better view of what you need to do at each step of the migration.



Discovery: Deciding which apps to migrate, and in what order

In the discovery phase of your cloud app transition, you'll spend anywhere from a few weeks to a few months nailing down specifics. You need to acquire a deep level of detail, because no matter what you do—get rid of an app, rebuild it, or use it as is—you must understand what you're dealing with.

Discovery starts with:

- **Aligning migration with business objectives.** A cloud app migration must square with your company's mission. You have to ensure the migration advances priorities like improving cash flow or elevating customer service. Moreover, you don't want it to interfere with essential business processes. You'll also want to ensure that it folds into your wider digital transformation strategy.
- **Defining requirements.** Next, you spell out the work that must be done to bring the migration to fruition. Outlining your high-level needs helps establish the scope of the project and keep it within defined parameters. At this stage, it's crucial to formulate a plan with milestones, deliverables, features, and tasks.
- **Documenting data governance and compliance.** Regulatory requirements, security protocols, and data integrity policies have a wide-ranging impact on app migration plans, so they must be documented in the discovery phase. A cloud migration gives you the opportunity to identify flaws and harden defenses; making sure you take address each of them effectively.

For example, in the opening phase of discovery, you may learn that in the past IT people have purchased software on their own and were reimbursed, therefore the company has no legal right to transfer the software to the cloud. Or past mergers and acquisitions have created a patchwork of applications that will need to be reconciled before moving them to the cloud. We've also seen cases where past software developers have left the company and neglected to provide in-depth documentation of the work they did on an application, causing a great deal of back-tracking to get the app ready for migration.

The next phase of discovery requires you to decide which apps to migrate and establish priorities for the order of implementing them. Factors to keep in mind:

- **Coding.** How much more coding must be done to make the app cloud-native? Some apps require only minimal revisions, but others need sophisticated rewrites. The bigger the recoding phase, the longer it'll take to migrate.
- **Personnel.** Many organizations don't have the in-house IT talent required to migrate apps to the cloud while also supporting core business needs. That's one of the primary reasons companies turn to IT consulting firms like CBTS.
- **Budget.** Financial constraints help you define the scope of your app migration ambitions. At this point you'll start deciding which apps to migrate first, and which can wait until more money becomes available.
- **Company preferences.** Each organization has unique preferences, based on their business objectives, company culture, and IT priorities. Some companies migrate low-priority apps first to work the bugs out before taking the plunge with mission-critical business apps. Others, however, migrate the in-demand apps first so they can show immediate results.



Everything you learn in the discovery phase pays off during implementation. Careful preparations that anticipate likely roadblocks reduce the likelihood of costly surprises. The details you miss in the preparation phase can cause massive headaches as the project progresses.

The discovery phase also is the place to start managing the expectations of company leadership and your IT team. A robust discovery process helps you avoid overpromising the top brass and overworking your frontline IT people.

Implementation: Maximizing advantages, minimizing risks, controlling costs

Doing your homework in the discovery phase smooths out the bumps in the critical implementation phase. Of course, you cannot anticipate every hiccup along the way, so you need a rigorous but flexible implementation program.

As you work your way through the implementation, you should keep referring back to the project scope you established at the outset. Scope creep—or outright expansion—can undo your budget and stretch out your timeline. That can undermine the benefits of your migration.

These are the key implementation steps:

- **Design specification.** This document spells out the core components of an app migration project in rich detail. For instance, technologies like virtual servers and containers must be optimized to produce the best results. Migration also requires an environment for development, testing, and production. These are just some of the factors to include in your design specification.
- **Project plan.** When you get the design specs, you need to develop an in-depth project plan that lists tasks, establishes a timeline, identifies dependencies, assigns personnel, and highlights risks. Make sure you have a realistic schedule that's flexible enough to handle the unexpected. Spell out your worst-case scenarios—an eCommerce site going down, for instance—and include a plan to respond to them.
- **Application development.** All your preparations pay off in the application development phase. You need a sophisticated development process and highly trained professionals to ensure the on-premise code performs as expected in the cloud environment. Use cloud automation tools to standardize the implementation of app features. These tools save time and remove many potential problems before they become big problems. Automation tools also allow the developers to put a lot more focus on unique tasks and a lot less on common ones, such as communication of app updates with changes, informing different units to begin work (developers, QA, UAT, and PMs), ensuring code is up to standards, running unit and integration tests, and tracking task progress.
- **User support.** Though the cloud simplifies app operations, it doesn't remove every question from the minds of users and IT teams. Thus, you need documentation, training, and assigned personnel to keep users happy and ensure the app lives up to expectations.



Agile development can help you adapt to challenges while staying within the scope of your app migration project. When change requests crop up, they can be addressed either within the current project scope or documented for a future phase.

Because cost savings are one of the core benefits of migrating to the cloud, you need to mind your project scope and budget carefully. You can't afford to let cost overruns undermine the appeal of sending apps to the cloud.

App migration comes down to skills and experience

Innovations in virtualization, containerization, and dozens more cloud-native technologies make app migration an attractive prospect. But if you haven't migrated on-premise apps before, you can miss out on many of these opportunities. Moreover, the learning curve of a cloud migration can throw you off course and trigger costly delays.

At CBTS, we have decades of experience designing, building, and managing data centers, so we understand the core infrastructure of a cloud environment. Our developers have a rich portfolio of cloud-migration projects to their credit, covering every phase of a project from discovery through implementation.

Talk to one of our experts today to see how we can help your organization deliver results in the cloud.

About CBTS

CBTS is a wholly owned subsidiary of Cincinnati Bell (NYSE:CBB) that serves enterprise and midmarket clients in all industries across the United States and Canada. From Unified Communications to Cloud Services and beyond, CBTS combines deep technical expertise with a full suite of flexible technology solutions that drive business outcomes, improve operational efficiency, mitigate risk, and reduce costs for its clients.



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