



White Paper

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# How to build a Cloud Center of Excellence

A guide to bringing cloud strategy, governance, and best practices to your organization



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## What is CCoE?

A Cloud Center of Excellence (CCoE) can act as a task force that helps to address the complex challenges of cloud adoption, migration, and operations throughout an organization.

## Overview





The cloud is entering a new era of widespread enterprise adoption. Leading vendors, such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud, have opened the door to large-scale cloud adoption with a raft of products that address the needs of modern enterprise IT.

The cloud has the advantage of being less costly and time-consuming to develop and maintain than physical, on-premises IT infrastructure. Where previously it took weeks or months to procure new hardware, IT professionals can now provision new resources in the cloud in a matter of a few clicks. What's more, with good cloud management, they can leverage modern and secure infrastructure at a significantly lower cost compared with traditional data centers.

However, cloud adoption represents a major IT transformation, a shift in culture and a new way of financing your infrastructure. It presents new cost and security challenges, requiring governance and control across the organization. It also needs a proactive team to take ownership and direction of the migration process.

This is where a Cloud Center of Excellence (CCoE) comes in. A CCoE can act as a task force that helps to address the complex challenges of cloud adoption, migration, and operations throughout an organization.

## This guide will cover:

-  **The role** that a CCoE plays in an organization's cloud strategy
-  **What you need** to establish a CCoE within your organization
-  **Action items** that a CCoE needs to perform at every stage of the cloud journey
-  **How CloudChecker**, now part of Spot by NetApp, can help your CCoE implement secure, compliant, efficient, and cost-effective cloud governance



# What is a Cloud Center of Excellence (CCoE)?

A Cloud Center of Excellence is a cross-functional team of people that leads cloud adoption, migration, and operations within their organization. The CCoE is responsible for developing and managing the cloud strategy, governance, and best practices that the rest of the organization can leverage to transform the business using the cloud. Some organizations may refer to the CCoE as a Cloud Competency Center, Cloud Capability Center, or Cloud Knowledge Center.

Every organization will have a different approach to its cloud strategy. The main function of a CCoE is to serve as the internal subject matter experts on all things cloud. The CCoE may form at any stage of a cloud journey, such as metrics, and offer recommendations for resource utilization and security of systems.

## Adoption

As an organization contemplates moving to the cloud, the CCoE may serve as the committee that researches cloud platforms and plans for migration.

## Migration

A CCoE plays a crucial role in architecting cloud environments, developing policies around cloud resources, and helping others within the organization understand the importance of cloud computing.

## Operations

As the organization's cloud use grows and changes over time, the CCoE evolves to accommodate the organization's shifting needs with additional cloud resources and technologies.

# Who makes up the CCoE?

A Center of Excellence dedicated to cloud transformation will be responsible for researching, planning and managing the complex logistics of cloud adoption. The CCoE team should come from a range of IT backgrounds, so it brings a broad perspective and balanced set of knowledge and skills to the table. A CCoE would typically include three to five people, but it may be larger depending on the organization's size and scale within the cloud.

## CCoE team members may have titles such as:

- IT Manager
- IT Financial Manager
- Operations Manager
- Systems Architect
- Systems Administrator
- Application Developer
- Database Administrator
- Network Engineer
- DevOps Manager
- DevOps Engineer

Ideally, the CCoE should include members who already have cloud experience. Someone in a role like lead cloud architect may be appointed leader of the CCoE. However, owing to the multidisciplinary nature of the cloud, employees with a broad set of related skills are particularly useful.

Team members may be part of the CCoE on an ongoing or temporary basis. Additionally, they might either work for the CCoE full-time or hold another position within the organization.

## Traits to look for in CCoE members:

- Excellent project management capabilities
- Great collaboration and teamwork
- Ability to perform research and think strategically
- Good interpersonal, presentation, and boardroom skills
- Effective written communication for regular updates and briefings
- An open-minded and adaptable attitude about new technology and processes



# Three C's for building and operating a CCoE

## Change mindset

With technology, change is inevitable. CCoE members should be able to easily adapt to changes as well: to the organization, to the cloud, and to the CCoE itself. A CCoE's structure and operating principles should always reflect this mindset when selecting vendors and adding services. This thought process also applies to the CCoE itself. A CCoE will likely start small, even in larger enterprises. Later, the size and structure of the CCoE may grow with the organization as more employees buy into the power of cloud computing.

## Cloud as product

AWS recommends that designated CCoE team members should "Treat the cloud as your product, and application team leaders as the customers you are enabling." Before a migration, the cloud might be unfamiliar to some within the organization. A CCoE's job is to address concerns and questions that employees may have about cloud use. The CCoE should supply these individuals with resources and training materials to help empower them in their cloud journey. Gartner suggests that CCoEs should establish "a knowledge base, source code repository, training events, [and] outreach throughout the organization," among other tactics that promote cloud knowledge and best practices.

## Collaboration

Above all, a CCoE is a collaborative effort. This team is responsible for creating policies and providing resources to the rest of the organization. Thankfully, this also means that the CCoE work doesn't just fall on the shoulders of a single person or business function. Members of the CCoE can also ask for input from everyone in the organization, not just the executive team or IT department. Everyone in the CCoE should be willing to serve as a helpful resource before, during, and after the cloud transformation.



# How to establish a CCoE at any stage of your cloud journey

## At the cloud adoption stage

Ideally, you want to establish a CCoE as soon as possible. A CCoE can help determine project requirements, narrow down a list of cloud providers to consider, and make other crucial decisions before migration begins.

Once they've decided to embark on a cloud adoption journey, your CCoE will spend a significant amount of time researching and planning for the move. This may involve one or more of the tasks listed below.

### The CCoE cloud adoption checklist



#### Prepare to move on-premises assets to the cloud

Determine the space, computing power, and additional capabilities as well as the overall cloud architecture (i.e., single-cloud, multicloud, or hybrid cloud) the organization needs.



#### Research cloud vendors

Choose a cloud vendor based on the requirements of your organization; the three leading IaaS platforms are AWS, Microsoft Azure, and Google Cloud.



#### Weigh pros and cons of each cloud platform

Consider factors such as feature requirements, platform compatibility, SLAs, and pricing structures.



**Learn about cloud cost optimization challenges**

Understand that with the dynamic, pay-as-you-go infrastructure of the cloud, you'll be switching from a CapEx to OpEx model of financing IT.



**Identify useful cloud applications**

Include technology that will integrate with the cloud and existing systems.



**Prioritize data security**

Review the shared responsibility model of cloud security and begin to develop policies around security, identity management, compliance, and other business factors.



**Seek out helpful partners and resources**

Leverage the expertise of managed service providers (MSPs) and cloud service providers (CSPs) to assist in migration research and planning.



## At the cloud migration stage

Once your CCoE has completed the initial phase of research and planning, it will set to work on the complex logistics of building your cloud, gearing up your workforce, and putting measures in place to manage your infrastructure.

Migration is a labor-intensive step in the cloud journey. Begin by breaking up larger tasks into smaller, more manageable assignments. That way, your company leadership will be able to see the results of your CCoE endeavors more quickly. At the same time, colleagues will build up their confidence and proficiency through practical cloud experience.

During the cloud migration period, the CCoE will be the guiding force behind the following key steps.

### The CCoE cloud migration checklist



#### Sign contracts with a cloud provider or providers

Plan for and provision secure, compliant, stable, and cost-efficient infrastructure.



#### Keep your organization informed

Use internal communications to keep the broader workforce aware of the changes to IT infrastructure.



#### Get certified

Help develop and nurture cloud best practices through continued training and certification from AWS, Microsoft, and/or Google.

**Leverage partner resources**

Work with your MSPs and CSPs to provide key stakeholders with on-the-job training in cloud skills.

**Become cloud evangelists**

Train staff in new technologies and educate them on the differences between cloud and traditional IT infrastructure.

**Have a recovery plan in place**

Determine failover architecture and recovery planning to minimize the impact of server downtime.

**Research third party cloud technology vendors**

Look for tools like CloudCheckr to help you manage, monitor, and mitigate issues in your cloud environment once migration is complete.

## At the cloud operations stage

It's never too late to begin putting together a CCoE. Whether you've just begun a long migration process or you're well into your cloud journey, a CCoE can help you drive continual improvements in your cloud environment at any point in time.

Throughout the life cycle of your cloud journey, your CCoE will drive the cloud transformation agenda, working with the senior management team to develop strategic initiatives. It will also perform the role of intermediary between different departments, promoting collaboration and transparency, and aligning the action plans of individual departments to the company's general business objectives.

One of the most important responsibilities of the CCoE is to manage and optimize cloud resources for cost, security, compliance, and utilization. Consider the factors in the checklist below as your CCoE develops its processes around cloud governance.

### The CCoE cloud operations checklist

**Track inventory of all cloud assets**

You can't manage what you don't know you have, so it's essential to have complete visibility over all your cloud assets. Implement a tagging system to track ownership of resources, prevent costly cloud sprawl, and limit the potential attack surface of your cloud environment.

**Optimize for performance and efficiency**

By paying attention to utilization, administrators can eliminate wasteful spending and ensure that they're getting the most out of their cloud resources. Utilization tools can help cloud administrators find unused, unattached, and underutilized resources and right size them appropriately.



### **Find ways to reduce cloud spend**

Cloud resources need to provide the right balance between performance and costs. Take advantage of reserved purchasing, find unused instances, and allocate costs in the form of chargebacks or showbacks to make functions within the organization more accountable for their resource consumption.



### **Secure your cloud**

Following security best practices is essential for maintaining information security and avoiding potentially costly data breaches. Cloud security tools can help CCoEs review and set user permissions, control inbound and outbound traffic, and find and fix vulnerabilities in real time.



### **Maintain compliance**

Compliance in the cloud aligns to local, federal, and international regulations like HIPAA, PCI DSS, NIST, and others. Continuous monitoring for compliance helps organizations stay audit-ready with a reliable “paper trail.”



### **Automate manual processes**

CCoEs can leverage automation to get the most out of their cloud. With automation, they can find opportunities for cost savings, heal security and compliance vulnerabilities, and right size resources — all with or without human intervention.



## How CloudCheckr powers the CCoE

As you can see, the CCoE is responsible for shaping the cloud strategy of an entire organization — no easy feat! Fortunately, they have their share of resources to choose from to help them manage the job.

Public cloud platforms have an abundance of native tools that can help organizations manage, monitor, and mitigate risks within their cloud environment. However, these tools are spread out across accounts and features, which leaves administrators spending valuable time and resources performing manual tasks to manage the cloud.

CloudCheckr helps CCoEs across industries meet their performance, governance, and transformational goals in the cloud. The CloudCheckr CMx cloud management platform helps CCoEs take the guesswork out of managing the cloud. Everyone at the table for the CCoE — including IT, finance, DevOps, InfoSec, and the C-suite — can see total visibility into cloud spend, utilization, security, and compliance, all in a single dashboard.

## CloudCheckr CMx features



### **Resource inventory and utilization**

Track inventory, monitor utilization analytics, and right size cloud resources.



### **Cost and expense management**

Manage and allocate costs, simplify billing and invoicing, and find ways to save money on your cloud computing costs.



### **Data security**

Track users and permissions, easily manage configurations, and monitor for changes and vulnerabilities.



### **Continuous total compliance**

Gain usage visibility, enforce user policies, and keep your cloud infrastructure audit-ready for 35 major regulatory standards.



### **Automation and self-healing capabilities**

Automate Best Practice Checks and self-healing for cost, security, and utilization in your cloud.

## Bring cloud best practices to your CCoE with CloudCheckr

With more than 600 Best Practice Checks in CloudCheckr CMx, CCoEs see effective cloud management all in one simplified dashboard.

To learn about how CloudCheckr can power your CCoE, [contact our sales team](#).



## About Spot by NetApp

The Spot by NetApp portfolio enables cloud operations teams to deliver scalability, performance and security for cloud infrastructure and applications — at the lowest possible cost — through continuous automation and optimization combined with deep visibility and governance. From cloud-native startups to global enterprises and managed services providers, thousands of customers rely on Spot solutions to unlock the full value of the cloud.