COMMON ROLES IN CLOUD COMPUTING

The cloud is here to stay. More and more enterprise are choosing to host their workloads here rather than invest in their own computing infrastructure. Benefits that drive global cloud adoption include:

- Reduced upfront capital costs
- Scalability
- Security
- Compliance and operational support

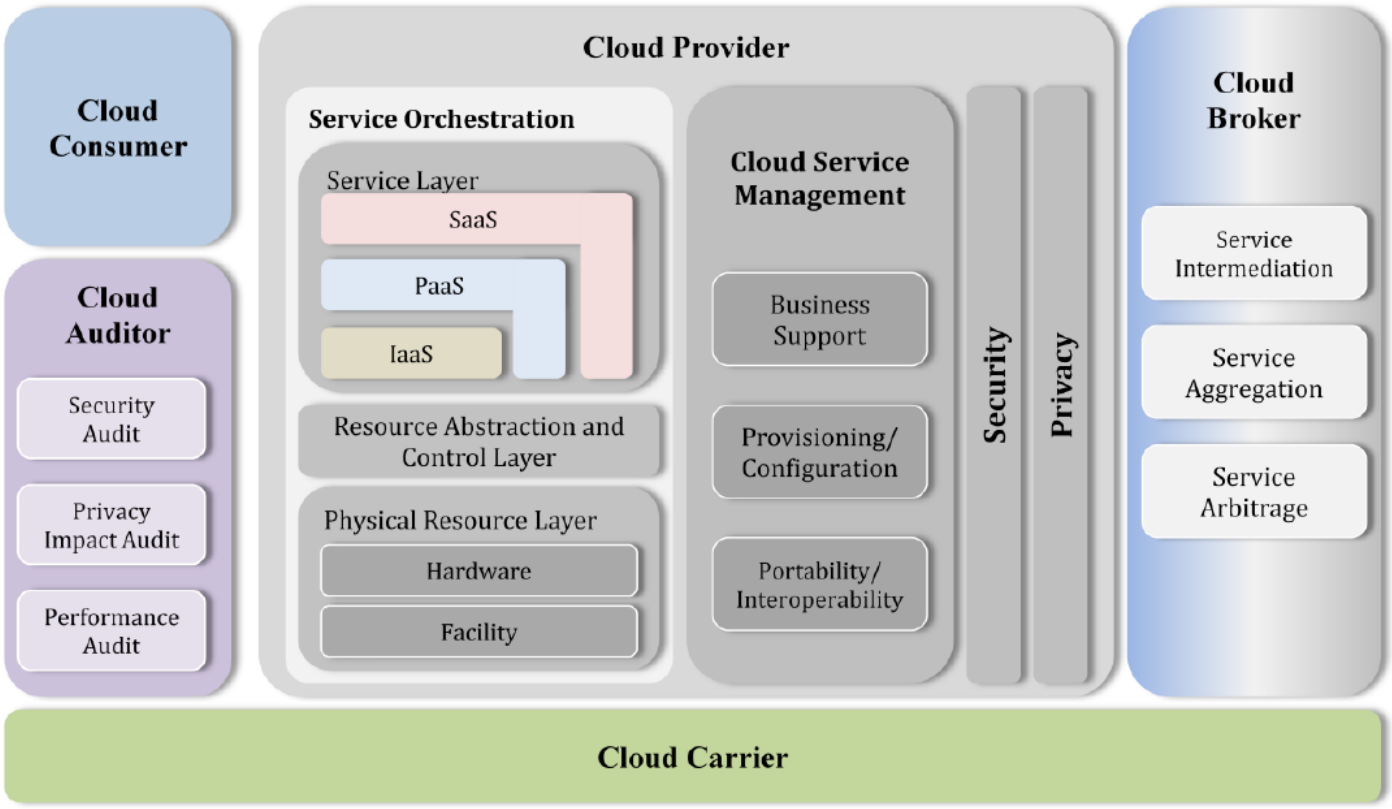
The 2020 IDG Cloud Computing Survey noted that at least 92% of enterprises are 'somewhat' on the cloud, while the Flexera 2021 State of the Cloud Report stated that 90% of enterprises expect cloud usage to exceed prior plans due to the global pandemic.

But what does this mean for roles involved in managing tech services? Will the same traditional roles apply, or will we see a whole reworking of the organizational chart to fit the capabilities that the cloud gives?

Let's look at this in detail.

NIST cloud computing roles

Some ten years ago, a team at the National Institute of Standards and Technology (NIST) developed a generic high-level cloud computing reference architecture that listed five actors involved in cloud computing.



NIST cloud computing reference model

The five actors, as defined in the reference model, are:

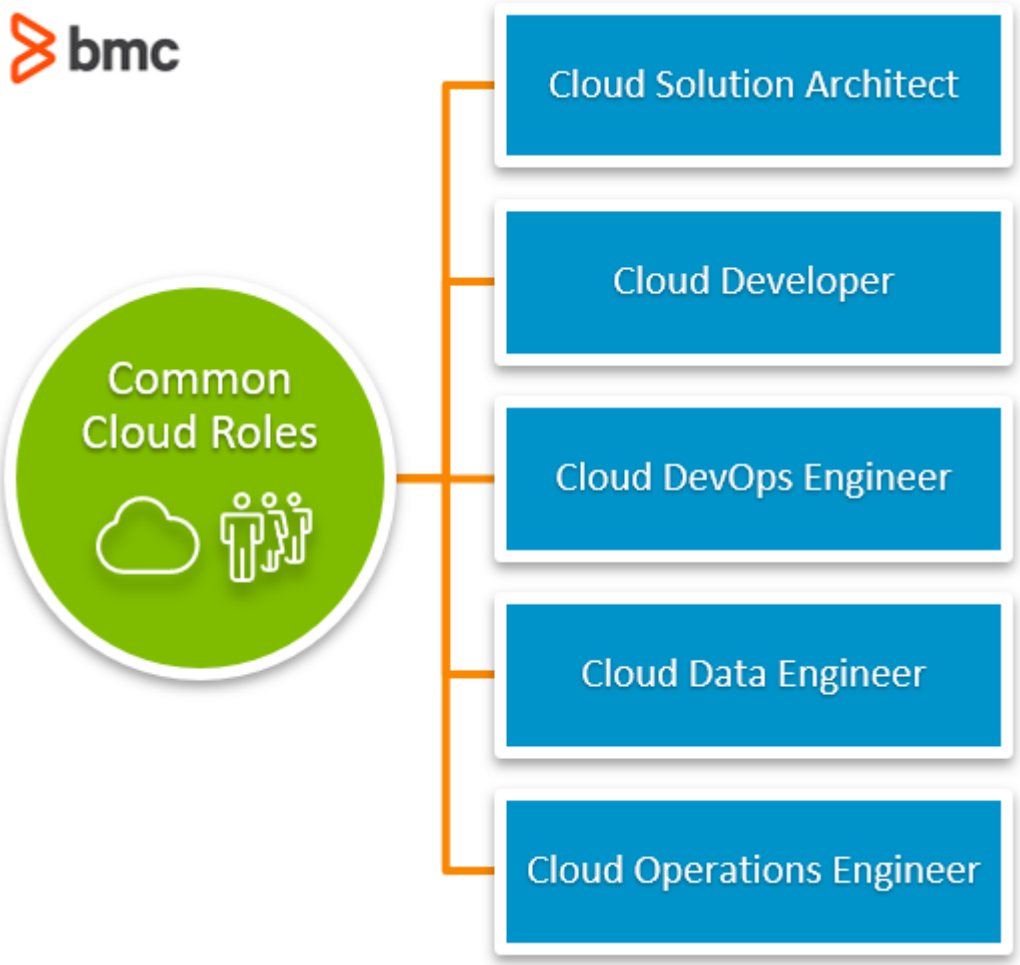
1. **Cloud Consumer** is a person or organization that maintains a business relationship with, and uses service from, cloud providers. Anyone who purchases a cloud service is a consumer, and within the consumer there could be an array of roles responsible for configuring and managing the resources from the cloud provider depending on the services obtained.
2. **Cloud Provider** is a person, organization, or entity responsible for making a service available to interested parties. A cloud provider would have a significant number of roles responsible for the management of its cloud resources including those responsible for selling, onboarding, configuring and supporting cloud services for its consumers.
3. **Cloud Auditor** is a party that can conduct independent assessment of cloud services, information system operations, performance, and security of the cloud implementation. Generally, cloud auditors are categorized based on intent. For the most part, their focus is on risk and compliance, especially around information security. Other auditors can provide advisory services especially to consumers looking to cut down their bills or raise the level of efficiency in the resources consumed.
4. **Cloud Broker** is any entity that manages the use, performance, and delivery of cloud services, and negotiates relationships between Cloud Providers and Cloud Consumers. Cloud brokers support consumers to get value for money by playing the advisory role especially for consumers who have a hybrid mix of resources from multiple providers.
5. **Cloud Carrier** is an intermediary that provides connectivity and transport of cloud services from Cloud Providers to Cloud Consumers. Most ISPs have taken the role of cloud carriers as they provide the requisite bandwidth needed to connect consumers with providers as well as capabilities that support the connectivity.

These roles clarify expectations around cloud usage—but they probably don't match the "cloud roles" that your hiring team is recruiting for.

JOB ROLES IN THE CLOUD COMPUTING AGE

Of course, job titles in cloud computing vary widely. Still, several roles stand out for cloud providers as well as consumers who have purchased IaaS or PaaS services.

The most common roles as listed by AWS include:



Cloud Solution Architect

This role is one of the hottest jobs in the cloud market. A cloud solution architecture is responsible for working with the business and technology teams to design the right architecture and services that will support the organization's strategy.

The focus of this role is technical in nature. But, due to the need to understand various cloud platforms and their configurations, this role is highly people centric as it involves:

1. Understanding business needs
2. Translating them into the right architecture and solution designs required to fulfil them

The solution architect will also assist developers to understand and translate the designs into solutions.

Cloud Developer

This role is responsible for building applications on the cloud. Similar to software developers, the cloud developer role involves:

- Understanding requirements
- Designing solutions
- Coding and debugging software hosted on cloud environments

Apart from scripting, the cloud developer needs to know the cloud architecture, infrastructure, and APIs—and how to leverage them to make applications that are cloud ready.

Cloud DevOps Engineer

The Cloud DevOps Engineer role builds, deploys, and maintains the infrastructure over which cloud applications run.

Automation is at the heart of this role, as most activities revolve around continuous integration and continuous delivery/deployment. Therefore this role:

- Uses source control and CI/CD tools to build software delivery pipelines, and deploy services on the right infrastructure.
- Develops tools for cloud developers to facilitate their activities
- Monitors the performance of deployed solutions

(Explore the DevOps Engineer role to set cloud expectations.)

Cloud Data Engineer

This role is responsible for managing, optimizing, overseeing, and monitoring the retrieval, storage, and distribution of data on the cloud.

The cloud data engineer role:

- Works with business users to understand their data requirements
- Builds algorithms to enable mining from raw data and subsequent modelling of data sets

Data engineers create and maintain machine learning and statistical models, as well as support the activities of architecting and managing data infrastructure such as databases, data warehouses, and data lakes.

(Learn more about data engineers.)

Cloud Operations Engineer

This role is involved in the managing, automating, securing, monitoring, and troubleshooting cloud infrastructure.

The differentiator between this role and the cloud DevOps engineer is that the cloud operations engineer has less to do with deployment and more to do with support. The main work is about ensuring availability and performance of cloud infrastructure and systems through:

- Monitoring
- Incident and problem management

The cloud ops engineer supports cloud customers during deployment and onboarding, and also plays a front-line role in resource management and information security within the cloud

environment.

Cloud roles on the rise

With the critical role of cloud for any company, cloud roles are only on the rise.

Related reading

- BMC Multi-Cloud Blog
- Hybrid Cloud Governance & Compliance
- The AWS Well-Architected Framework: 5 Pillars & Best Practices
- The Multi-Cloud & How To Create A Multi-Cloud Strategy
- DevOps Job Titles, Roles & Responsibilities