Cloud Ecosystem:

A cloud ecosystem is a complex system of interdependent components that all work together to enable cloud services. In nature, an ecosystem is composed of living and nonliving things that are connected and work together. In cloud computing, the ecosystem consists of hardware and software as well as cloud customers, cloud engineers, consultants, integrators and partners.

Cloud Ecosystem Actors can be categorized into following:

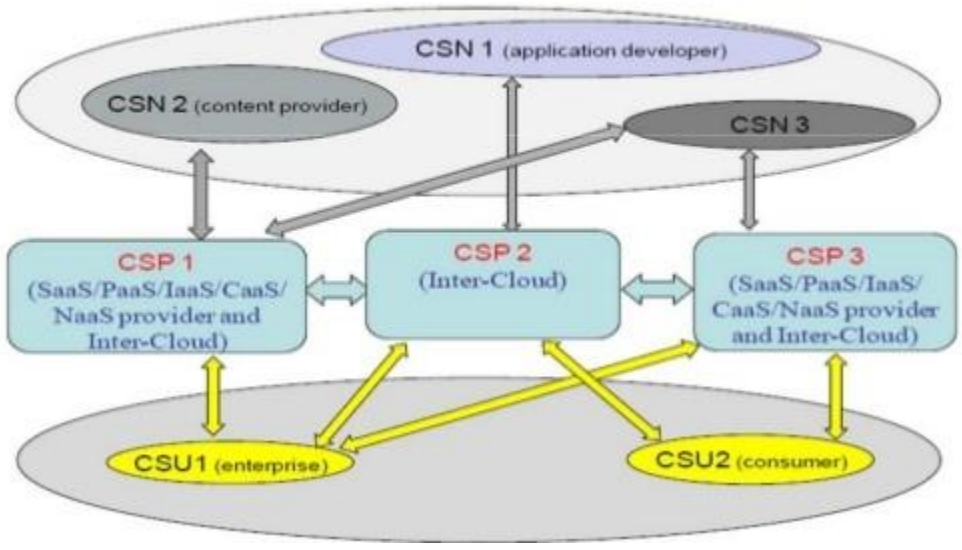
1)Cloud service user (CSU): It is a person or organization that consumes delivered cloud services.

A CSU can include intermediate users that will deliver cloud services provided by a cloud service provider (CSP) to actual users of the cloud service, i.e. end users.

End users can be persons, machines, or applications.

2)Cloud service provider (CSP): An organization that provides and maintains delivered cloud services.

3)Cloud service partner (CSN): A person or organization that provides support to the building of the service offer of a CSP (e.g. service integration).



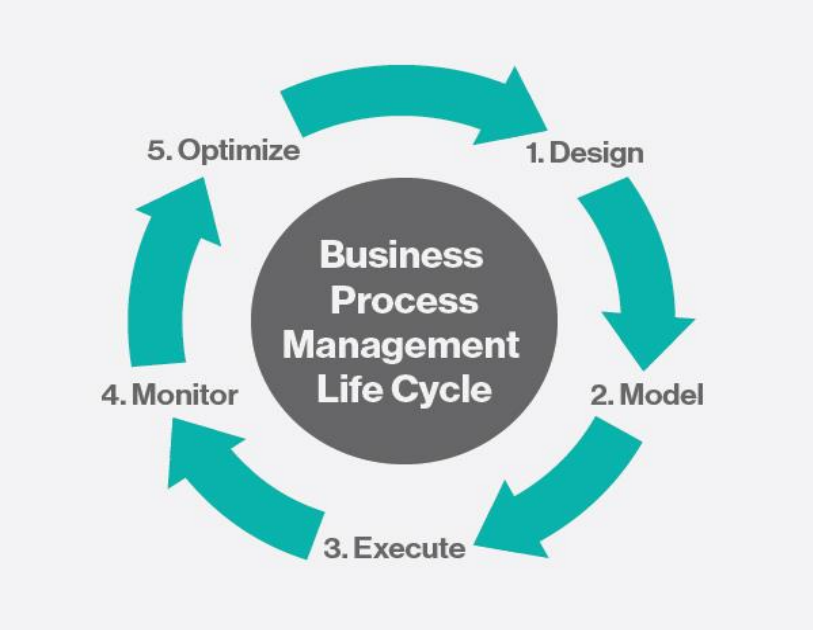
How Cloud Ecosystem works

The center of a cloud ecosystem is a public cloud service provider. It might be an IaaS provider such as Amazon Web Services (AWS) or a SaaS vendor such as Salesforce. Radiating out from the center of the cloud are software companies that use the provider's anchor platform, as well as consultants and companies that have formed strategic alliances with the anchor provider. There is no vendor lock-in because these companies overlap, making the ecosystem more complex. For example, AWS is the center of its own ecosystem, but it's also a part of the Salesforce ecosystem. Salesforce runs a number of its services on AWS's infrastructure, and Salesforce customers can gain access, through devices called connectors, to pieces of AWS, such as its Simple Storage Service (S3).

Cloud Business Process Management:

Business process management (BPM) is a discipline in operations management in which people use various methods to discover, model, analyze, measure, improve, optimize, and automate business processes.

BPM helps you automate, monitor and optimize continuously improve business processes to increase efficiency and reduce costs.



Cloud business process management is usually a platform-as-a-service solution that lets you create workflows and optimize them. Without having to install a single Mb of software on your office hardware, you can use these cloud-based software solutions to streamline and optimize everyday business activities.

Why do we need Cloud BPM

Minimized Errors: Cloud BPM solutions help you keep error rates minimal. It removes mountains of paperwork and manual data entry riddled with errors. Multiple records are also eliminated since changes are synced and visible to every team with access.

Anywhere, anytime access: Legacy systems store data on a local drive. This can be rather limited in terms of access.

Cloud BPM, on the other hand, stores information in a centralized database thereby making access possible any time from any location. Further, stakeholders can access the application from any device.

Security: Cloud BPM applications come with a wide range of security features such as role-based access, conditional visibility, data encryption, and more

Reliable, consistent experience:

Legacy systems don't enjoy great reputation in terms of the experience they provide. At best, they are cumbersome and time-consuming. Users are constantly threatened by the possibility of server downtime and virus or malware attacks.

With cloud BPM, vendors provide ample backup to ensure that there's minimal downtime if at all. They also protect data using built-in firewalls.

Minimal setup and maintenance:

When you use on-premise software, you're saddled with endless details like installation, configuration, storing data, ensuring adequate space to run the software, buying additional hardware, and arranging for backups. As for updates, installing them on each system and scheduling required downtime becomes your responsibility. Whatever the software needs to function, it becomes your burden to bear. Needless to say, your IT department's time and energy are heavily taxed.

With cloud BPM, the vendor assumes responsibility for all day-to-day operations of the application. This includes aspects such as performance, memory, storage, hosting, backups, and downtime. In case of new releases or bug fixes, they are immediately implemented for all users. This means that your IT department can focus on other pressing matters. Meanwhile, any issues you encounter are easily addressed by round-the-clock support from your cloud business process management vendor.

Better collaboration:

Collaboration is incredibly easy with cloud BPM, irrespective of whether your teams are on the same office floor or different continents. Centralized documentation, digital checklists, and automated process flow make it possible for information to be accessed by stakeholders whenever the need arises.

Improved insights

Given that all data is stored in a central database, it becomes simpler to monitor and analyze patterns. Information gathered from these reports can then help refine strategies and make critical decisions.

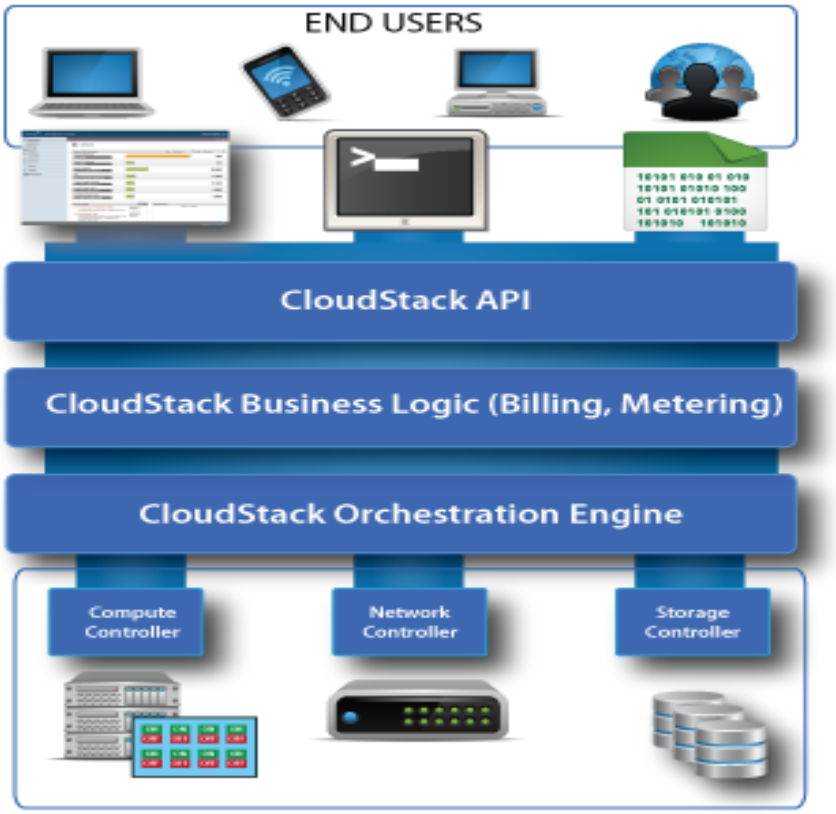
Legacy BPM systems can no longer help organizations stay abreast with rapid developments in your industry. Your organization needs a solution that is simple, easy to use, and optimized for your processes.

CloudStack

CloudStack is an open source software by Apache designed to deploy and manage large networks of virtual machines, as a highly available, highly scalable Infrastructure as a Service (IaaS) cloud computing platform.

CloudStack is used by a number of service providers to offer public cloud services, and by many companies to provide an on-premises (private) cloud offering, or as part of a hybrid cloud solution.

CloudStack is a turnkey solution that includes the entire "stack" of features most organizations want with an IaaS cloud: compute orchestration, Network-as-a-Service, user and account management, a full and open native API, resource accounting, and a first-class User Interface (UI).



CloudStack Features:

One Cloud, Multiple Hypervisors - With CloudStack, a single cloud deployment can run multiple hypervisor implementations of multiple types. Based on a pluggable architecture, CloudStack software works with a variety of hypervisors including KVM, vSphere and Citrix XenServer to give customers complete freedom to choose the right hypervisor for their workload.

Massively scalable infrastructure management - CloudStack lets you manage tens of thousands of servers across geographically distributed datacenters through a linearly scalable, centralized management server that eliminates the need for intermediate cluster-level management servers. No single component failure can cause cluster or cloud-wide outage, enabling downtime-free management server maintenance and reducing the workload of managing a large-scale cloud deployment.

Easy-To-Use Web Interface - CloudStack makes it simple to manage your cloud infrastructure with a feature-rich user interface implemented on top of the CloudStack API. Fully AJAX-based and compatible with most popular web browsers, the solution can be easily integrated with your existing portal for seamless administration. A real-time view of the aggregated storage, IP pools, CPU, memory and other resources in use gives you better visibility and control over your cloud.

Robust RESTful API - CloudStack implements industry-standard APIs on top of a low-level CloudStack API with its own unique and innovative features. Although the CloudStack API is documented, maintained and supported, CloudStack does not assert it as your only option! We also have support for the EC2/S3 API and may implement other cloud API standards as they become available.

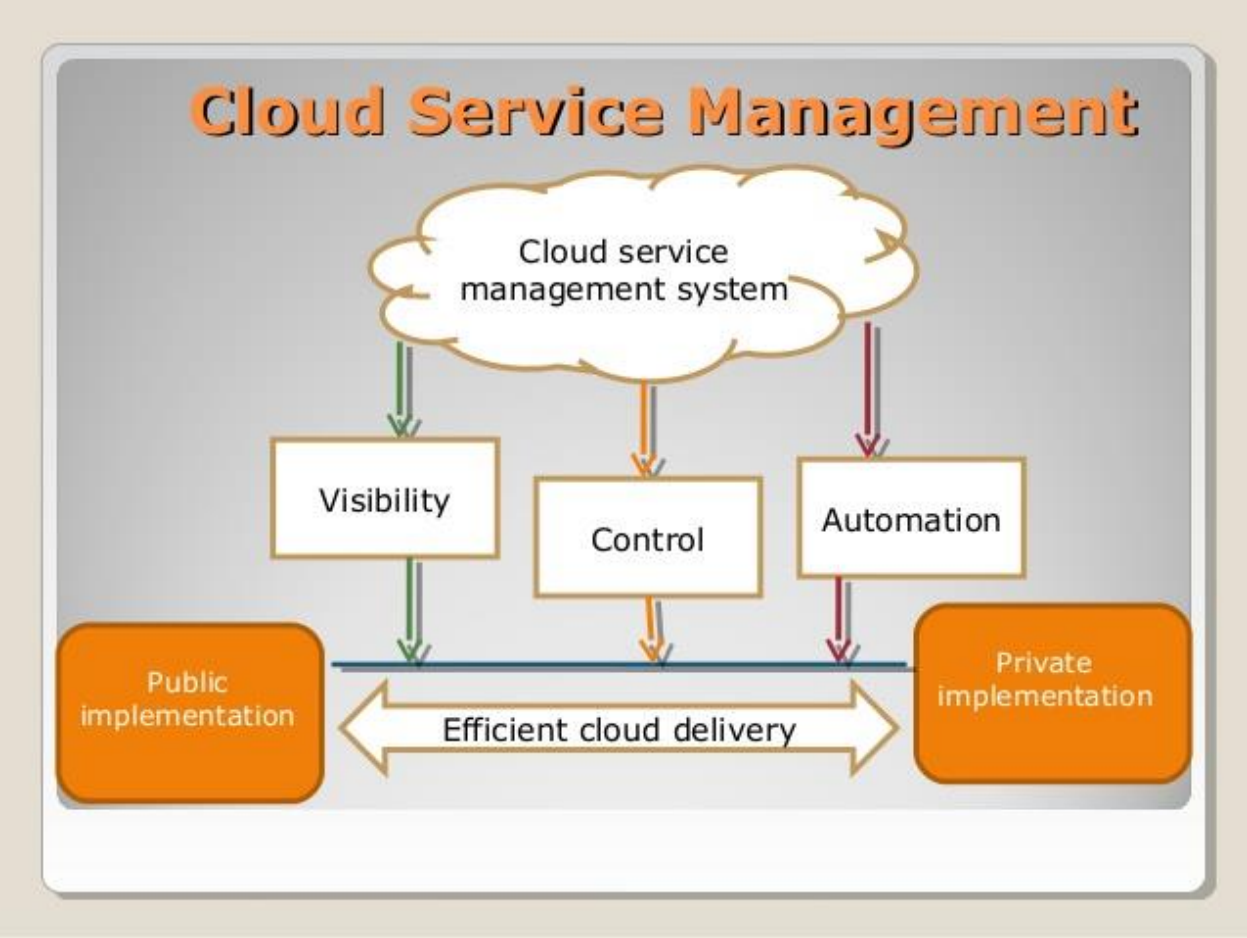
Cloud Sourcing

Cloud sourcing, a well-known process in today's time enables the cloud products as well as services to be outsourced to one / more cloud service providers. It facilitates the organizations to acquire their complete infrastructure from cloud, so that it can easily incorporate with every platform. To be more precise, it is considered to be an outstanding future of computing, where businesses of all probable sizes are quickly searching for the cloud to cater their IT needs.

Cloud sourcing is the combination of Cloud Computing and Outsourcing.

It is a similar trend of outsourcing where the businesses outsource few or all-possible business operations to third-party vendor. With the arrival of cloud computing and augmenting flexibility of diverse products or services provided under this expertise, it is simple to offer the cloud a very simple solution. This solution will break lot of preceding barriers as far as cost, scalability, and platform interoperability is concerned.

Cloud Service Management



Cloud service management provides visibility, control and automation needed for efficient cloud delivery in both public and private implementations.

Simplify user interaction with IT

Cloud should provide the user friendly self-services so that user will find the services easy to use. This can lead to increased number of customers and efficiency.

Enable policies to lower cost with provisioning

Automatic allocating and de-allocating of resources will make delivery of services fast. Also, the provisioning policies should allow release and reuse of assets.

Providing benefits to the Cloud Broker

Cloud Brokers can help companies to choose the right platform, deploy the applications across multiple clouds. This can increase the ability of cloud consumers to use services in trustworthy manner. Hence it becomes the critical success factor in Cloud Computing.

What key characteristics Cloud Architect should focus on?

Scalability: Cloud architect should maintain an index of resources for enabling the scalability to scale across tens and thousands of machines over multiple geographies.

High Availability: Cloud architect must maintain the solution for high availability and disaster recovery.

Application Lifecycle: The cloud architect should support for the creation of infrastructure to installation, configuration and launching an application to deletion and expiration.

Role based Administration: It allows fine grained control of what each person can or can't do in cloud features.

Policies: Cloud architect should provide a rich set of policies. These policies can be modified or new ones can be created to take effect at global level.

For example, a policy can be created to allow an application to flex up to 10 VMs during high load or demand and to be reduced to only 2 running VMs during low load or demand. Freed resources can be used by other applications that are experiencing high loads.

Alarms: Cloud architect should provide pre-defined alarms that can be set at global level for applications. These alarms can be used to notify individual users or application owners regarding the application thresholds being reached.