

NIST cloud computing ^{reference} architecture
defines 5 major ~~performance~~ performers:-

- Cloud Provider ✓
- Cloud Carrier
- Cloud Broker
- Cloud Auditor }
- Cloud Consumer ✓

Each performer is an object (a person or organisation) that contributes in a transaction or method &/or performs tasks in Cloud Computing.

1) Cloud Service Providers (CSP)

A group or object that delivers cloud services to cloud consumers & end users. It offers various components of cloud computing.

Cloud computing consumers purchase a growing variety of cloud services from CSP. Various categories of cloud-based services mentioned:-

(i) IaaS providers:-

This model, cloud service providers offer infrastructure components that could exist in an on-premises data center. Components consist of servers, networking & storage as well as the virtualization layer.

(ii) SaaS Providers:-

Vendor provide a wide sequence of business technologies such as human resource management (HRM) software, (CRM) customer relationship management all of which SaaS vendor hosts & provide services through Internet.

(iii) PaaS Providers:-

Vendor offer cloud infrastructure & services that can access to perform many functions. In PaaS, services & products are mostly utilize in s/w development.

PaaS providers offer more services than IaaS providers. They provide O.S & middleware along with application

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Monday	30	2	9	16	23
Tuesday	31	3	10	17	24
Wednesday		4	11	18	25
Thursday		5	12	19	26
Friday		6	13	20	27
Saturday		7	14	21	28
Sunday	1	8	15	22	29

April	14	15	16	17	18
Monday		6	13	20	27
Tuesday		7	14	21	28
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Thursday	2	9	16	23	30
Friday	3	10	17	24	
Saturday	4	11	18	25	
Sunday	5	12	19	26	

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stack, to the underlying infrastructure.

2) Cloud Carrier -

Mediator who provides offer connectivity & transport of cloud services within cloud service providers & cloud consumers. It allows access to the services of cloud through internet network, telecommunication, & other access devices.

N/w & telecom carriers or a transport agent can provide distribution. A consistent level of services is provided when cloud provider set up Service level Agreement (SLA) within cloud carrier.

In general, carrier may be required to offer dedicated & encrypted connections.

3) Cloud Broker -

An org. or a unit that manages the performance, use & delivery of cloud services by enhancing specific capability & offers value-added services to cloud consumers. It

combines & integrates various services into one or more new services.

They provide service arbitrage which allows flexibility & opportunistic choices.

There are major three services offered by Cloud broker:-

- 1) Service Intermediation
- 2) Service Aggregation
- 3) Service Arbitrage

March					
Weeks	9	10	11	12	13
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April					
Weeks	14	15	16	17	18
Monday		6	13	20	27
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09 4) Cloud Auditor

10 An entity that can conduct
 11 independent assessment of cloud
 12 services, security, performance & information
 01 system operations of cloud implementation.
 02 The services that are provided by cloud
 03 service provider (CSP) can be evaluated
 04 by service auditors in terms of
 05 privacy impact, security controls
 06 performance, etc. Cloud Auditor can
 07 make assessment of security controls
 in information system to determine the
 extent to which the controls are
 implemented correctly. ~~of~~
 3 primary audits done by Cloud Auditor.

i) Security Audit

(ii) Performance Audit.

(iii) Privacy Impact Audit.

2) Cloud Consumer:-

is the end user who browses or utilizes the service provided by CSP, set up service contracts with cloud providers.

Cloud consumer pays per use of the service provisioned. Measured services utilized by consumers.

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In this, set of organizations having mutual regulatory constraints who performs a security & risk assessment for each use case of

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cloud migrations & deployments.

→ Cloud consumers use Service-level Agreement (SLA) to specify technical performance requirements to be fulfilled by a cloud provider. SLAs can cover terms concerning the quality of service, security, & remedies for performance failures. A cloud provider may also list in SLAs a set of limitations or boundaries & obligations that cloud consumers must accept.

A cloud provider's public pricing policy & SLAs are non-negotiable, although a cloud consumer who assumes

to have substantial usage might not
be able to negotiate for better
contracts.