



Generic Cloud Architecture

COURSE: 23CAE717 - Cloud Computing

UNIT III : Cloud Infrastructure

CLASS : II Semester / I MCA



- In efficient utilization of resources
- Resource saturation
- Lack of scalability
- Lack of security and governance
- Bad/no tenant management



- Not understand how to make architectures scale
- Not understand that security is mistake
- Not understand proper use of services
- Tossing technology at the problem
- Managing by magazine
- Wrong perception on multitenant





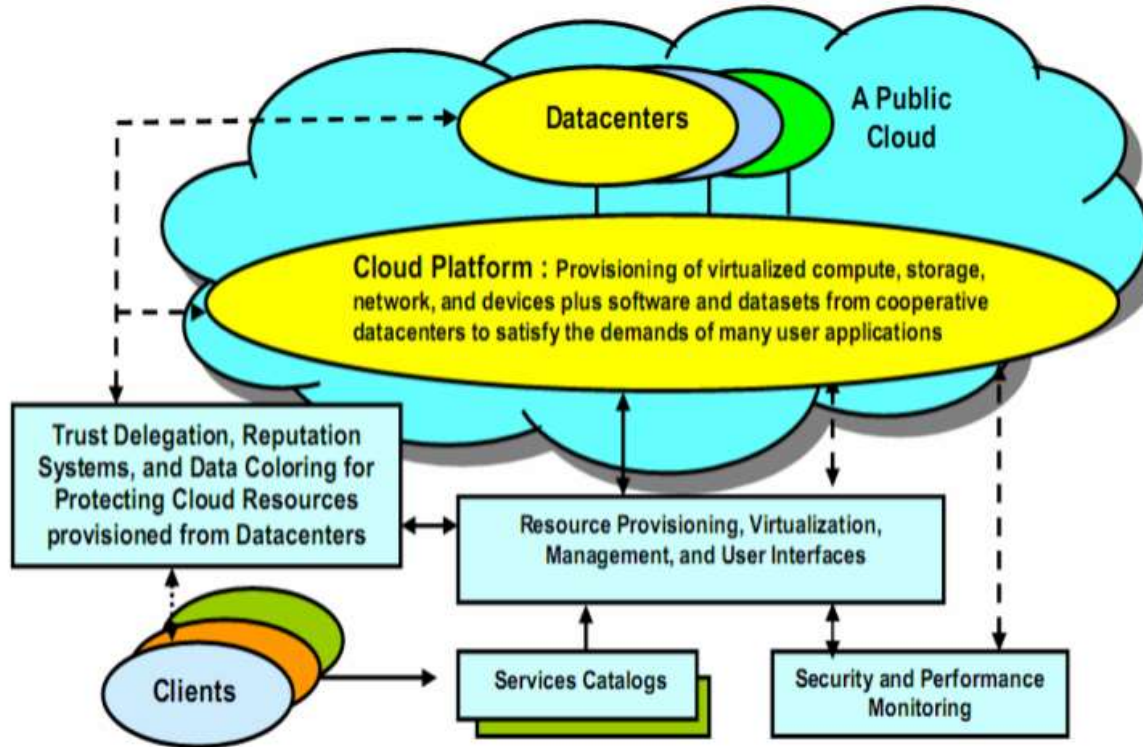
- Governance
- Regulatory compliance
- Security and identity management
- Business continuity
- Process and services
- Data management
- System integration
- Resource skills and knowledge
- Application readiness
- Network readiness



- Determine business drivers
- Understand data, services, business process
- Design cloud friendly architecture roadmap that leverages SOA
- Integration strategy for internal and external system
- Migration path to new architecture



- User interfaces
- Dynamic resource provisioning
- Distributed storage and services
- Framework to process large-scale data stored in data center (distributed file system over database)
- Storage area networks
- Databases
- Firewalls and security devices
- Special web services API
- Monitoring and metering units



- Patient
- Doctor
- Security org
- Storage
- Education
- Research
- Govt. Healthcare organization
- Insurance





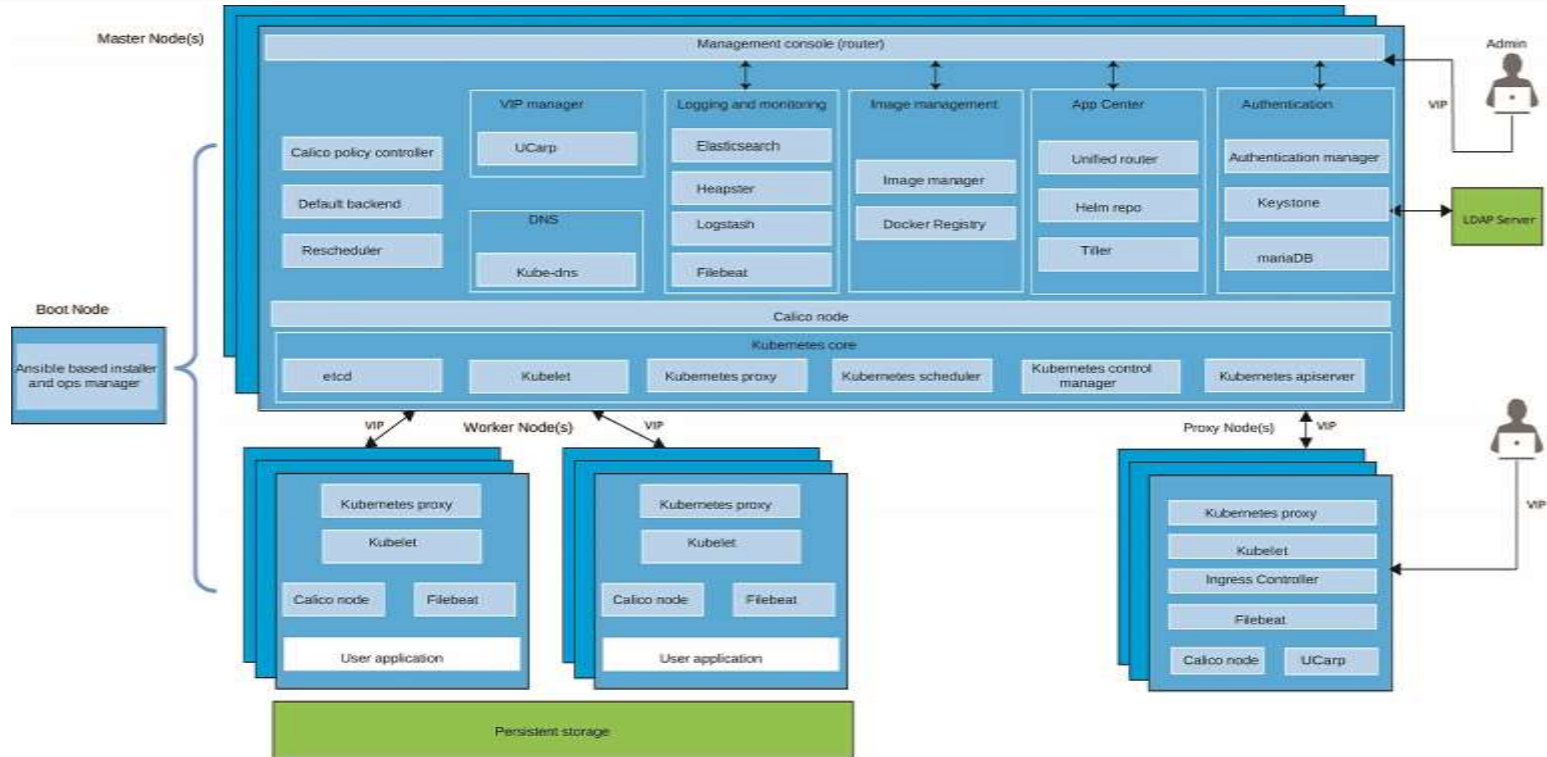
IBM® Cloud Private cluster has four main classes of nodes: boot, master, worker, and proxy

- ❑ A boot or bootstrap node is used for running installation, configuration, node scaling, and cluster updates
- ❑ Only one boot node is required for any cluster
- ❑ A master node provides management services and controls the worker nodes in a cluster
- ❑ It host processes that are responsible for resource allocation, state maintenance, scheduling, and monitoring





- A worker node is a node that provides a containerized environment for running tasks.
- As demands increase, more worker nodes can easily be added to your cluster
- A proxy node is a node that transmits external request to the services created inside your cluster
- Multiple proxy nodes are deployed in a high availability (HA) environment to allow for failover if the leading proxy host fails
- A management node is an optional node that only hosts management services like monitoring, metering, and logging.





- ❑ Kai Hwang, Geoffrey C Fox, Jack G Dongarra, “Distributed and Cloud Computing, From Parallel Processing to the Internet of Things”, Morgan Kaufmann Publishers, 2012
- ❑ James E. Smith, Ravi Nair, “Virtual Machines: Versatile Platforms for Systems and Processes”, Elsevier/Morgan Kaufmann, 2005.
- ❑ Kumar Saurabh, “Cloud Computing – insights into New-Era Infrastructure”, Wiley India,2011.
- ❑ Toby Velte, Anthony Velte, Robert Elsenpeter, “Cloud Computing, A Practical Approach”, TMH, 2009.
- ❑ John W.Rittinghouse and James F.Ransome, “Cloud Computing: Implementation, Management, and Security”, CRC Press, 201

