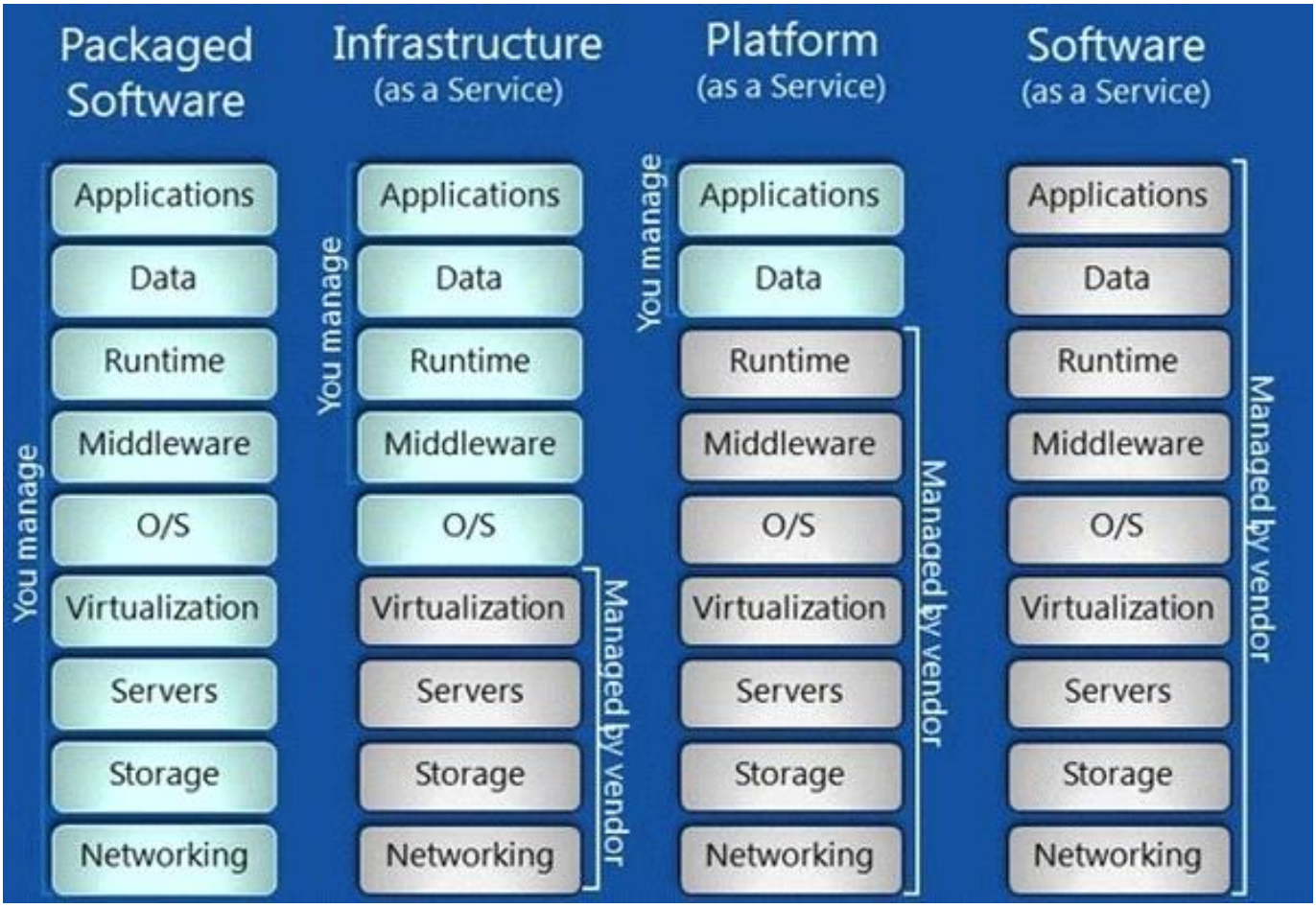
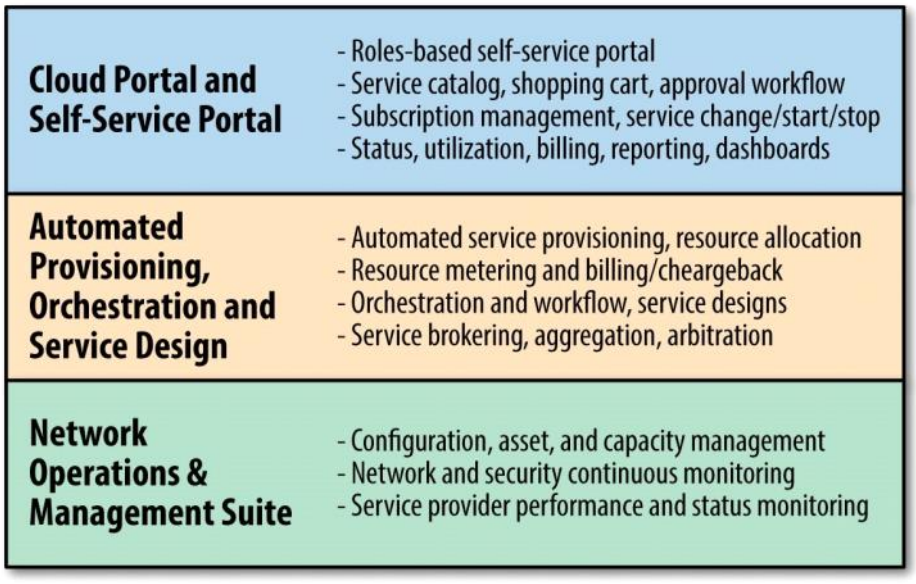
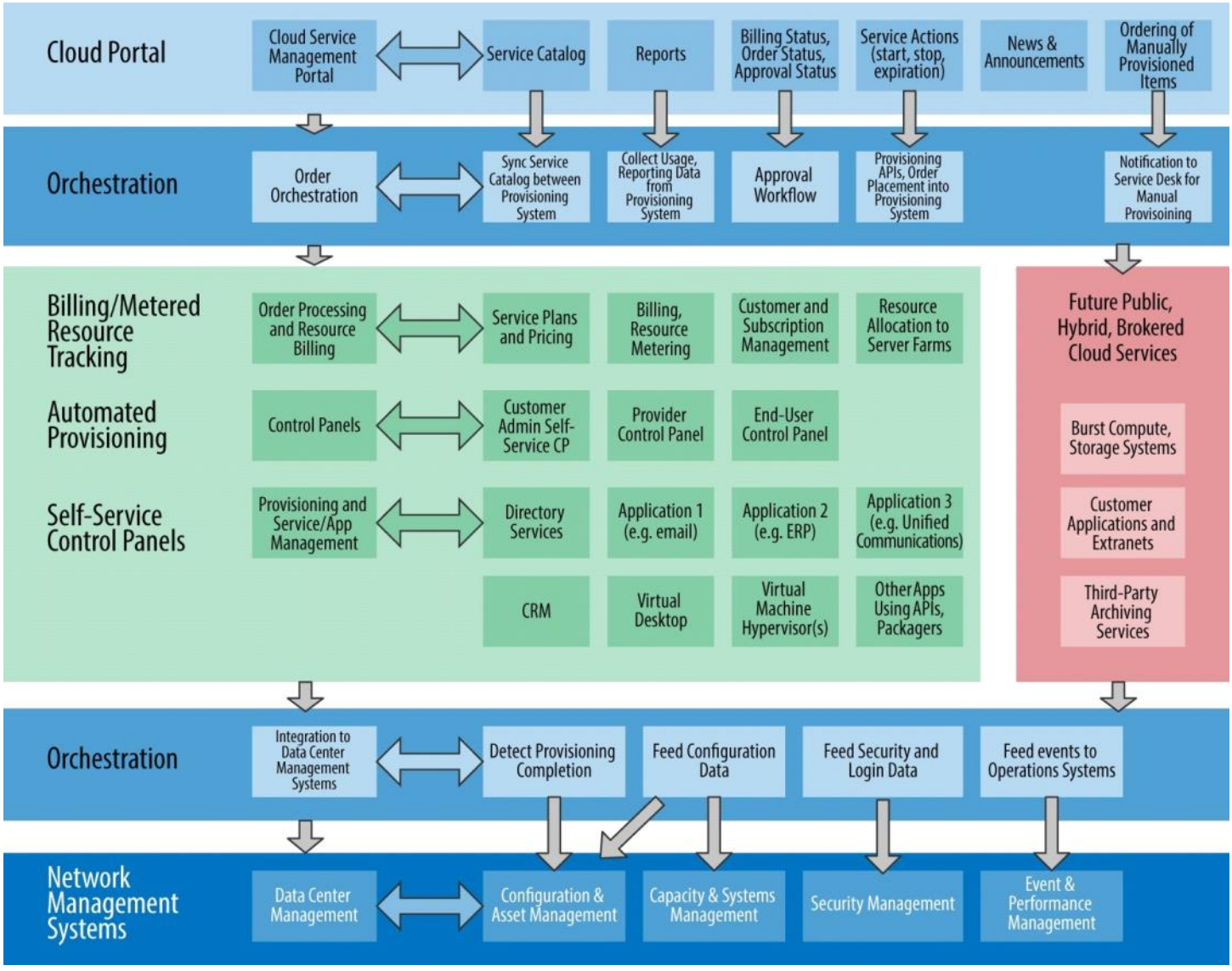
# Overview


Packaged Software
Infrastructure (as a Service)
Platform (as a Service)
Software (as a Service)
Applications
Data
Runtime
Middleware
O/S
Virtualization
Servers
Storage
Networking
You manage
Managed by vendor

# Cloud Mgmt. Platform Arch.




Cloud Portal
Cloud Service Management Portal
Service Catalog
Reports
Billing Status, Order Status, Approval Status
Service Actions (start, stop, expiration)
News & Announcements
Ordering of Manually Provisioned Items
Orchestration
Order Orchestration
Sync Service Catalog between Provisioning System
Collect Usage, Reporting Data from Provisioning System
Approval Workflow
Provisioning APIs, Order Placement into Provisioning System
Notification to Service Desk for Manual Provisoining
Billing/Metered Resource Tracking
Order Processing and Resource Billing
Service Plans and Pricing
Billing, Resource Metering
Customer and Subscription Management
Resource Allocation to Server Farms
Automated Provisioning
Control Panels
Customer Admin Self-Service CP
Provider Control Panel
End-User Control Panel
Self-Service Control Panels
Provisioning and Service/App Management
Directory Services
Application 1 (e.g. email)
Application 2 (e.g. ERP)
Application 3 (e.g. Unified Communications)
CRM
Virtual Desktop
Virtual Machine Hypervisor(s)
Other Apps Using APIs, Packagers
Future Public, Hybrid, Brokered Cloud Services
Burst Compute, Storage Systems
Customer Applications and Extranets
Third-Party Archiving Services
Orchestration
Integration to Data Center Management Systems
Detect Provisioning Completion
Feed Configuration Data
Feed Security and Login Data
Feed events to Operations Systems
Network Management Systems
Data Center Management
Configuration & Asset Management
Capacity & Systems Management
Security Management
Event & Performance Management

# Iaas

**Infrastructure as a service (Iaas)**

- COMPUTE - STORAGE - NETWORKING - DATABASE - DNS
- Raw computing power & Hardware
    - CPU, H/W, memory etc.,
- Run/Manage your own OS. Running your own "mini data center"
- You will have maximum degree of control
- Charged on Usage basis per CPU time, Storage space, network bandwidth (pay per use/pay-as-you-go model); No capital cost
- e.g EC2, Google Compute Engine

# PaaS

**Platform as a service**

- Provides software platform on which users can build, test and deploy their own application
- e.g AWS Elastic beanstalk, Google App Engine
- Best when new applications are developed than migrating the existing ones.

# SaaS

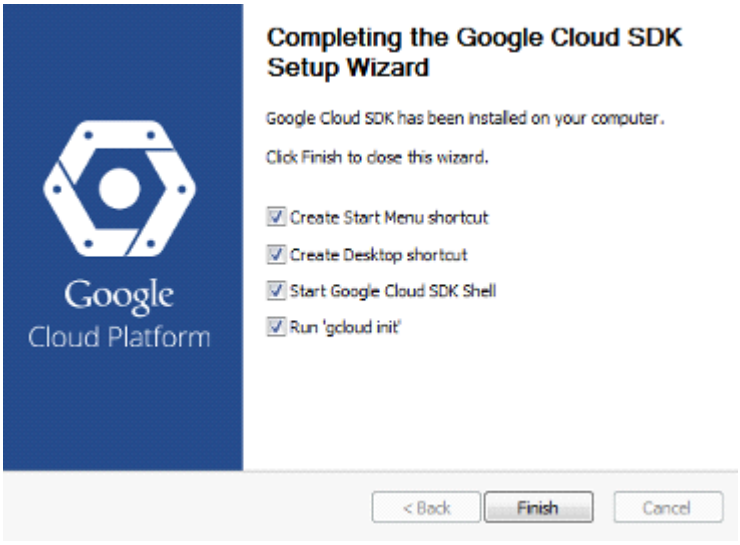
**Software as a Service**

- Hosted service
- Can be accessed by browser or any thin client
- e.g. Gmail, SalesForce, QuickBooks, or any other CRM applications..
- Saves software installations, upgrades, maintenance etc., they are all done by service provider
- Multi-tenant - per user pricing
- Cost advantages
- Limited Control

# Google Cloud SDK Shell Installation

## Before you begin

1. Download the Google Cloud SDK installer.
2. Launch the installer and follow the prompts.
3. After installation has completed, the installer presents several options:




Make sure that the following are selected:

- **Start Google Cloud SDK Shell**
- **Run 'gcloud init'**
  The installer then starts a terminal window and runs the `gcloud init` command.

## Initialize the SDK

Use the `gcloud init` command to perform several common SDK setup tasks. These include authorizing the SDK tools to access Google Cloud Platform using your user account credentials and setting up the default SDK configuration.

To initialize the SDK:

1. Run the following at a command prompt:

   ```
   gcloud init
   ```

2. Accept the option to log in using your Google user account:

   ```
   To continue, you must log in. Would you like to log in (Y/n)? Y
   ```

3. In your browser, log in to your Google user account when prompted and click **Allow** to grant permission to access Google Cloud Platform resources.
4. At the command prompt, select a Cloud Platform project from the list of those where you

have **Owner**, **Editor** or **Viewer** permissions:

```
Pick cloud project to use:
 [1] [my-project-1]
 [2] [my-project-2]
 ...
 Please enter your numeric choice:
```

If you only have one project, `gcloud init` selects it for you.

5. If you have the Google Compute Engine API enabled, `gcloud init` allows you to choose a default Compute Engine zone:

```
Which compute zone would you like to use as project default?
 [1] [asia-east1-a]
 [2] [asia-east1-b]
 ...
 [14] Do not use default zone
 Please enter your numeric choice:
```

`gcloud init` confirms that you have complete the setup steps successfully:

```
gcloud has now been configured!
You can use [gcloud config] to change more gcloud settings.
Your active configuration is: [default]
```