

Telkomtelstra Security Solution

How to harden your azure cloud workload

Darwin, CISSP
Cyber Security Product Manager





EDUCATION

INFORMATION SYSTEM

Bachelor Degree, STMIK Bidakara, Jakarta (2010 - 2012)

TELECOMMUNICATION ENGINEERING

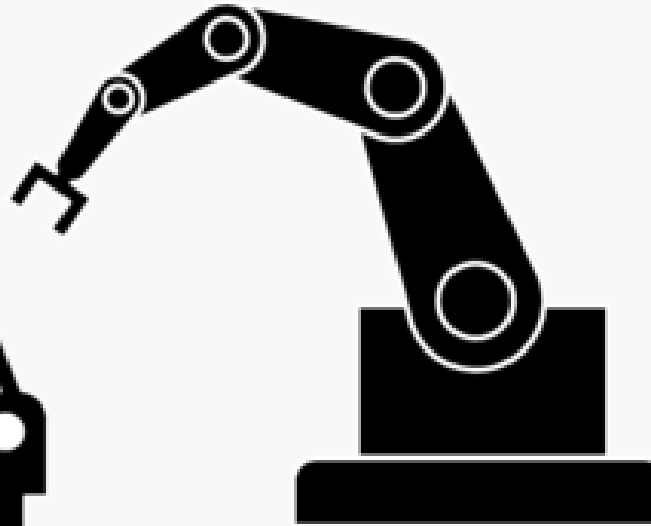
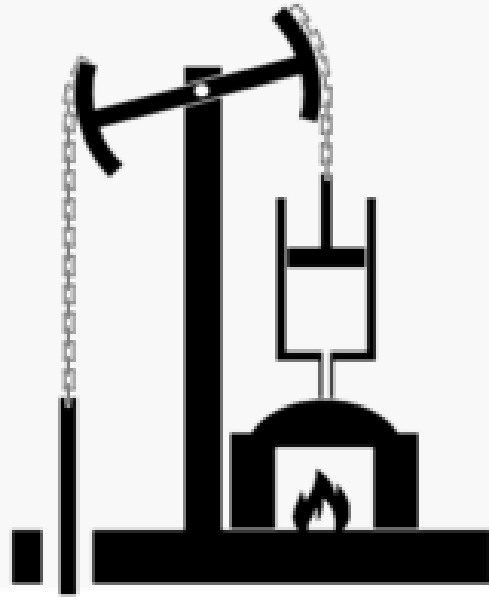
Diploma / Associate Degree, Telkom University, Bandung (2004 - 2009)

CERTIFICATION

- CISSP - Certified Information System Security Professional - Credential ID 704459
- ITIL Intermediate - SD - Service Design - Credential ID GR752052645DD
- ITIL Intermediate - CSI - Continual Service Improvement - Credential ID GR755024345DD
- ITIL Foundation - Credential ID 6156880.20723195

Phases from Industry 1.0 to Industry 4.0

telkomtelstra



1st

2nd

3rd

4th

Mechanization,
water power, steam
power

Mass production,
assembly line,
electricity

Computer and
automation

Cyber Physical
Systems



Cloud Computing means storing and accessing data and programs over the internet instead of your computer's hard drive

CLOUD

Common implies multi tenancy, not single or isolated tenancy

Location independent

Online

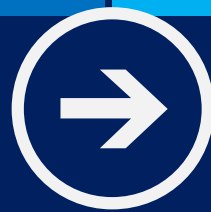
Utility implies pay for use pricing

Demand implies, infinite, immediate, invisible scalability

Server Placement



**Servers Room
On premise Datacenter**



Professional DataCenter

Cloud is a new way to think about your datacenter

Traditional model

- Dedicated infrastructure for each application
- Purpose-built hardware
- Distinct infrastructure and operations teams
- Customized processes and configurations



Servers

Cloud model

- Loosely coupled apps and micro-services
- Industry-standard hardware
- Service-focused DevOps
- Standardized processes and configurations
- In-country Private and On-Premise Cloud model - Hybrid

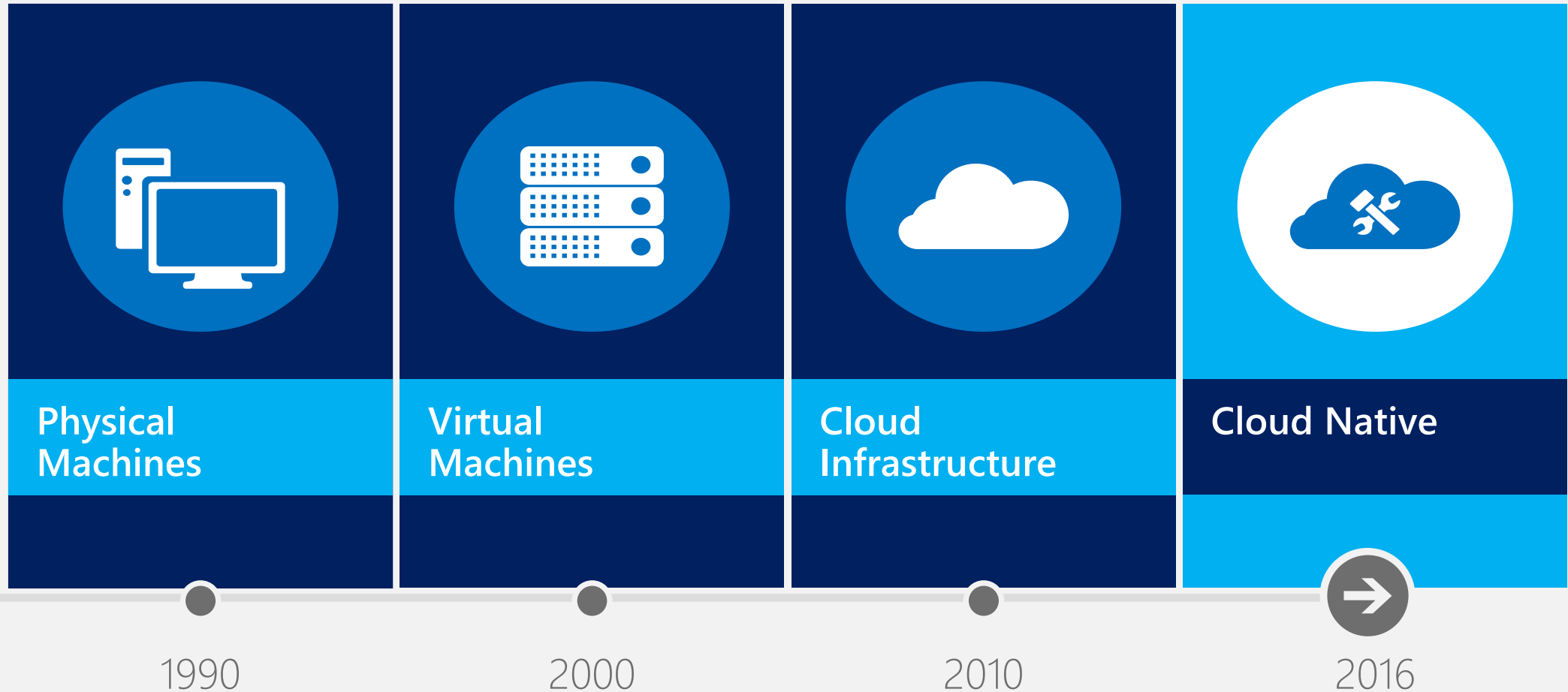


Services



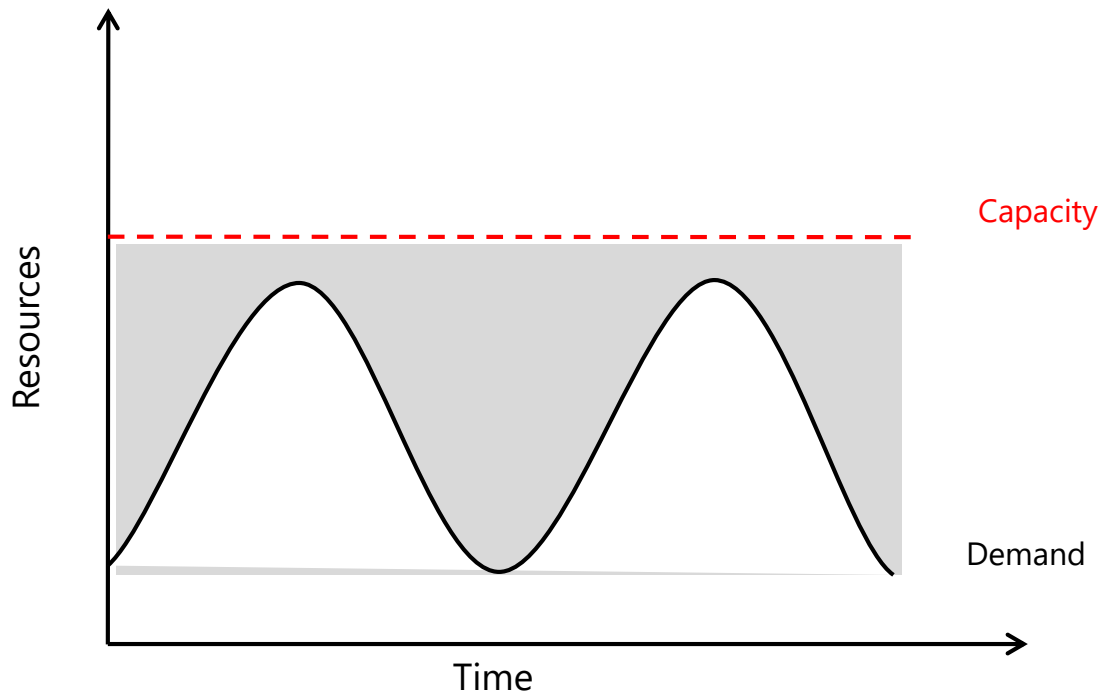
The Changing World of App Development

Mainframe
Monolithic
Client/Server
3 Tier
Component
RAD
Distributed
SOAP
SOA
Web
REST
Mobile
Microservices
Containers
Serverless

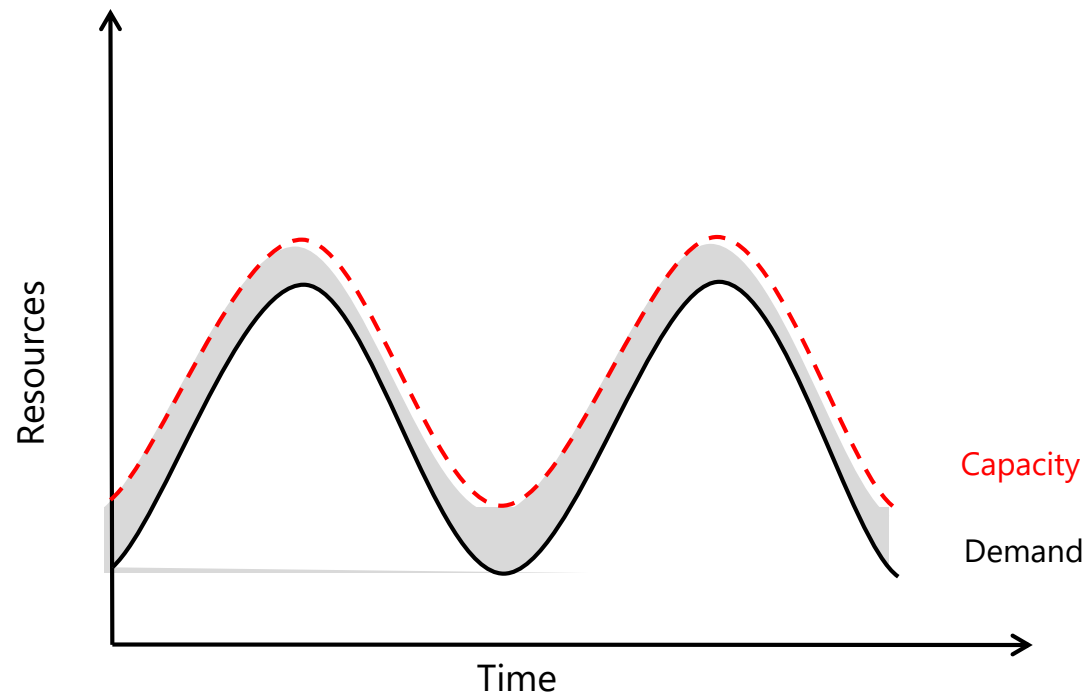


- Cloud is next generation of Data Center (DC).
- As properly DC which managed by IT organization with all devices, physical server, storage, operating system and applications.

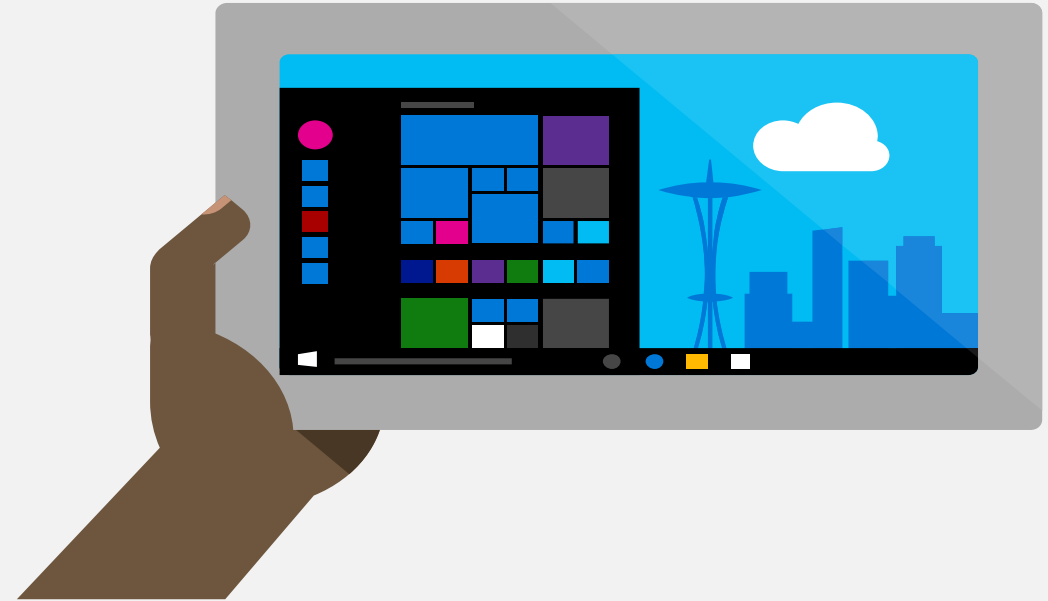
From fix.....



.....to flexible



Build your innovation with Azure



Virtual Machine



Apps Services



Restore



Back Up



SQL



IoT



Mobile Apps



Machine Learning



Media Service



Open API



Power BI



Function



Active Directory



Batch AI



HD Insight



Function

| Responsibility | On-Prem | IaaS | PaaS | SaaS |
|----------------|----------|------------------|------------------|------------------|
| Applications | Customer | Customer | Customer | Service Provider |
| Data | Customer | Customer | Customer | Service Provider |
| Runtime | Customer | Customer | Service Provider | Service Provider |
| Middleware | Customer | Customer | Service Provider | Service Provider |
| O/S | Customer | Customer | Service Provider | Service Provider |
| Virtualization | Customer | Service Provider | Service Provider | Service Provider |
| Servers | Customer | Service Provider | Service Provider | Service Provider |
| Storage | Customer | Service Provider | Service Provider | Service Provider |
| Networking | Customer | Service Provider | Service Provider | Service Provider |

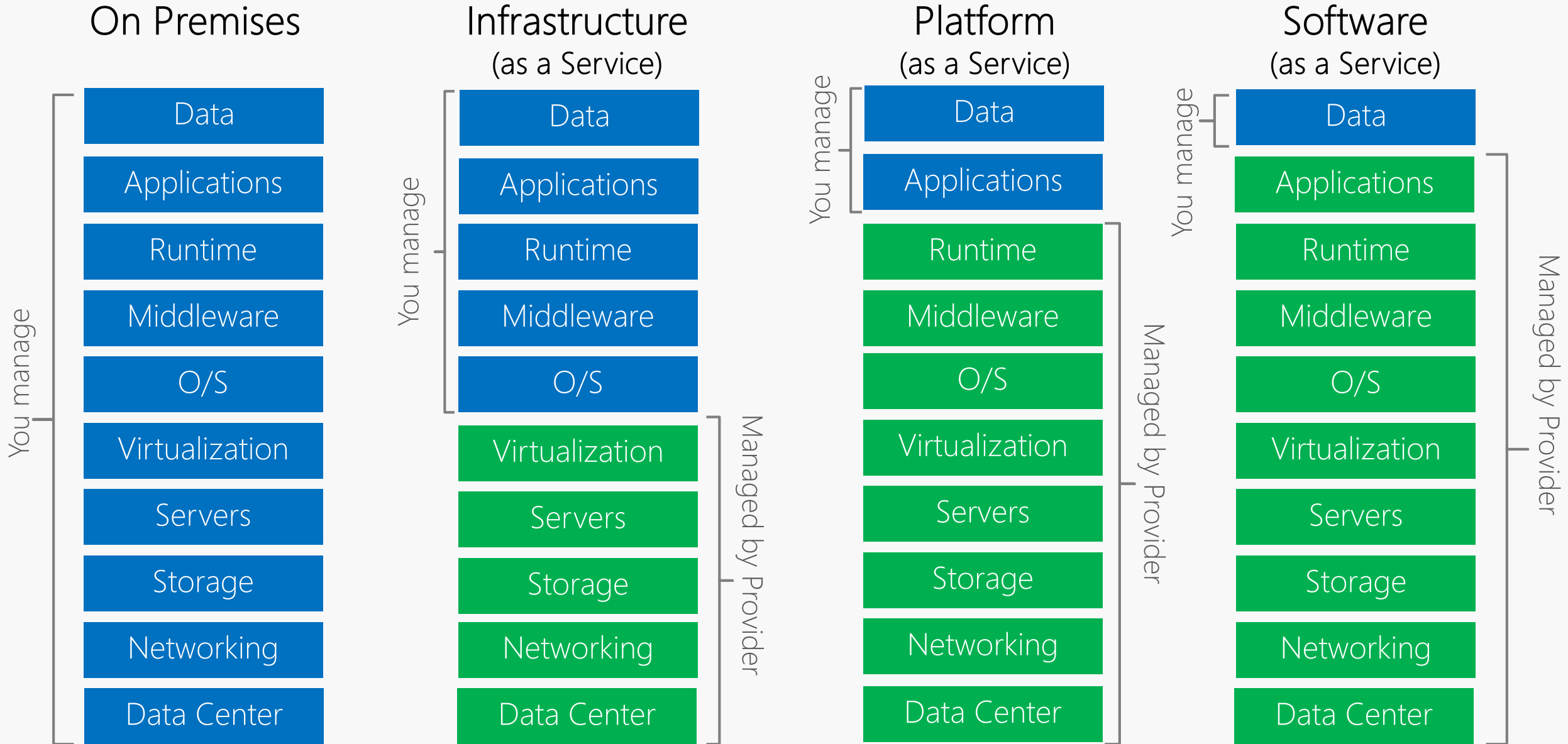
Customer
 Service Provider

Choose a platform that lets you focus on business Innovation

Cloud Service Model, or component which provided by cloud service provider or commonly called with IaaS-PaaS-SaaS

- **IaaS** – is cloud computing service which provide IT infrastructure, CPU, Memory, storage, bandwidth and others. **User: sysadmin**
- **PaaS** – is cloud computing service which provided platform services, Operating System, database, web server, framework. **User: developer**
- **SaaS** – is cloud computing service as application which customer can directly use, such as email, CRM apps, social media. **User: app user**

Cloud Shared Responsibility Models



Cloud Security Shared Responsibility Models telkomtelstra

Customer Responsibility

Cloud Provider Responsibility

| On Premises | Infrastructure (as a Service) | Platform (as a Service) | Software (as a Service) |
|--------------------------|-------------------------------|--------------------------|--------------------------|
| Information and Data | Information and Data | Information and Data | Information and Data |
| Devices (Mobile and PCs) | Devices (Mobile and PCs) | Devices (Mobile and PCs) | Devices (Mobile and PCs) |
| Accounts and Identities | Accounts and Identities | Accounts and Identities | Accounts and Identities |
| Identity and Directory | Identity and Directory | Identity and Directory | Identity and Directory |
| Applications | Applications | Applications | Applications |
| Network Controls | Network Controls | Network Controls | Network Controls |
| Operating System | Operating System | Operating System | Operating System |
| Physical Hosts | Physical Hosts | Physical Hosts | Physical Hosts |
| Physical Network | Physical Network | Physical Network | Physical Network |
| Physical Datacenter | Physical Datacenter | Physical Datacenter | Physical Datacenter |

Always Customer Responsibility

Varied by Service Type

Cloud Provider Responsibility

Lab Session

**Identity Management &
Access Security Control**

**Securing Azure
Virtual Machine**

**Azure Operational
Security**

Identity Management & Access Security Control

Securing Azure Virtual Machine



Azure Operational Security





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