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Digitech Indonesia Conference 2018
What's Happen in Cloud

Arief Rakhmatsyah
VP Product Cloud & UC
Jakarta, 28 November 2018

Cloud Computing means move the use of internal resource on premise to the services of the service providers.

Meaning of 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

By 2025, 80% of enterprises will have **shut down their traditional data center**, versus 10% today. (Gartner, 2018)

By 2021, **75% of enterprise customers** seeking cloud managed infrastructure as a service (IaaS) and platform as a service (PaaS) solutions **will require multicloud capabilities** from a cloud managed service provider, up from 30% in 2018 (Gartner, 2018)

The **number of cloud managed service providers (MSPs)** will triple to peak in the thousands globally by 2020, then experience a massive consolidation period through 2023.

Why enterprise is shifting to cloud?

By 2022, cloud shift across key enterprise IT markets will increase to 28% (up from 19% in 2018). – Gartner 2018

The shift of enterprise IT spending — from traditional (non cloud) offerings to new, cloud-based alternatives — is occurring at a fast rate.
Cloud is no longer only an IT-strategy but more of business strategy which makes business continuity is an essential consideration.
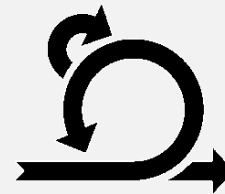
Asset Refreshment

It predicted that asset retirement (i.e. datacenter) drives higher rates of movement to cloud by at least 2022,.
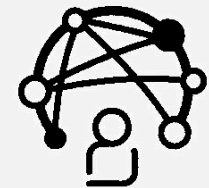
Innovation

Many innovation in digital business requires capability that born in Cloud Environment. High-compute fulfilment is moving from on-premise to cloud environment.

Agility

Flexibility and scalability are factors that drives cloud adoption. Unlike datacenters, cloud need shorter time to deliver in fulfilling the business need.
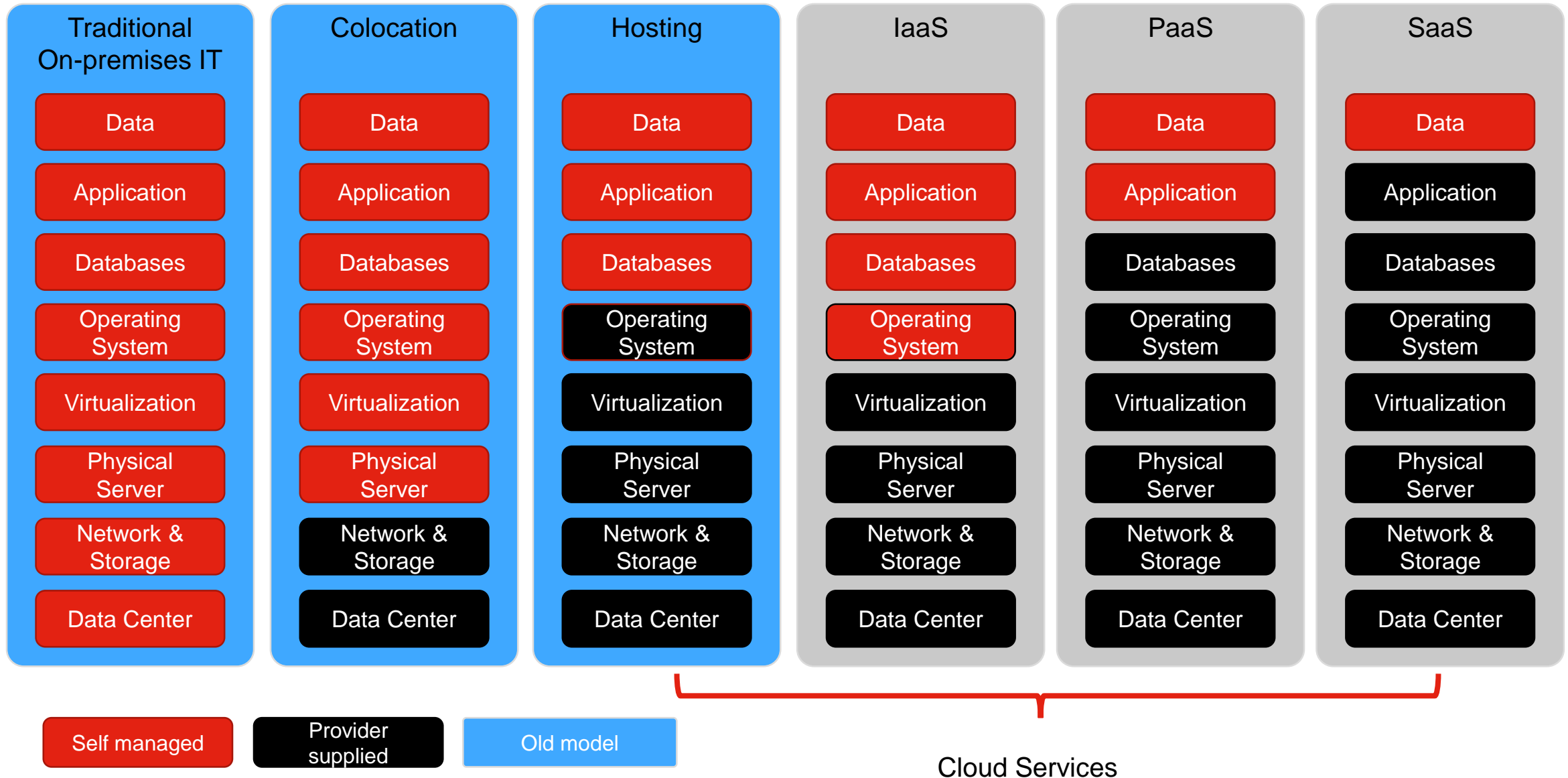
Digital Economy

Participation in digital economy is inseparable in digital business ecosystem. It is often urge enterprise to integrate with external system such as IoT, edge computing, public API or social media.
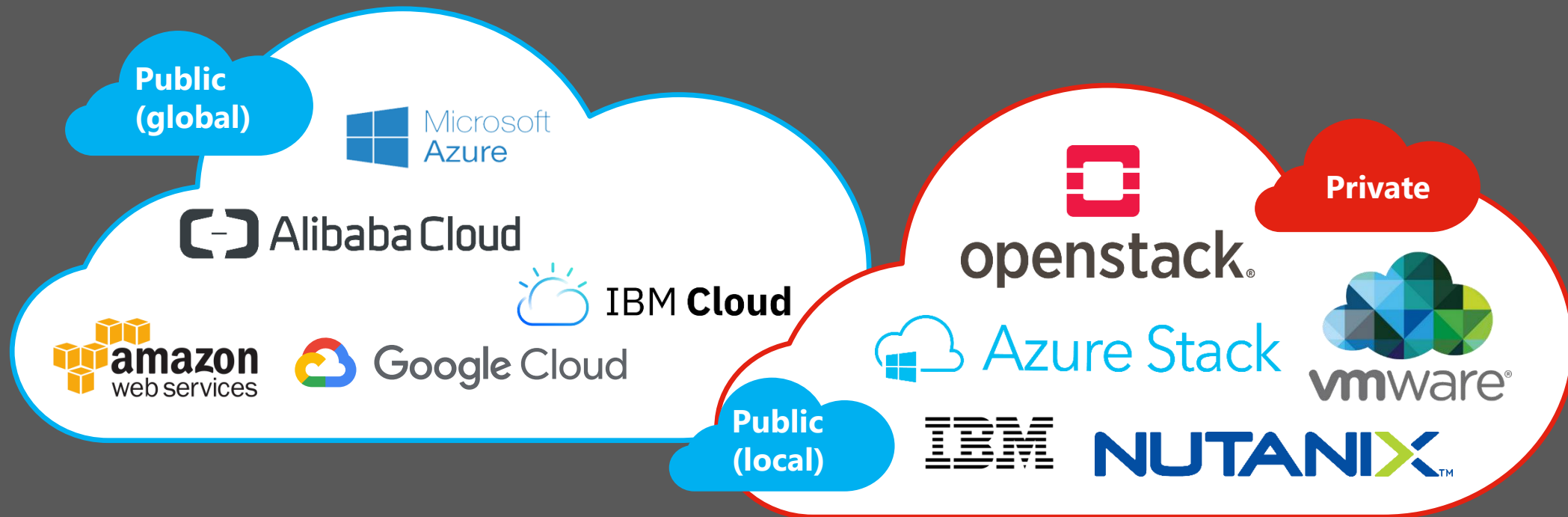
Cloud Journey

Hybrid Cloud

Digital Cloud Infrastructure

Identify What You Are Doing in The Cloud

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Traditional On-premises IT	Colocation	Hosting	IaaS	PaaS	SaaS
Data	Data	Data	Data	Data	Data
Application	Application	Application	Application	Application	Application
Databases	Databases	Databases	Databases	Databases	Databases
Operating System	Operating System	Operating System	Operating System	Operating System	Operating System
Virtualization	Virtualization	Virtualization	Virtualization	Virtualization	Virtualization
Physical Server	Physical Server	Physical Server	Physical Server	Physical Server	Physical Server
Network & Storage	Network & Storage	Network & Storage	Network & Storage	Network & Storage	Network & Storage
Data Center	Data Center	Data Center	Data Center	Data Center	Data Center

Self managed

Provider supplied

Old model

Cloud Services

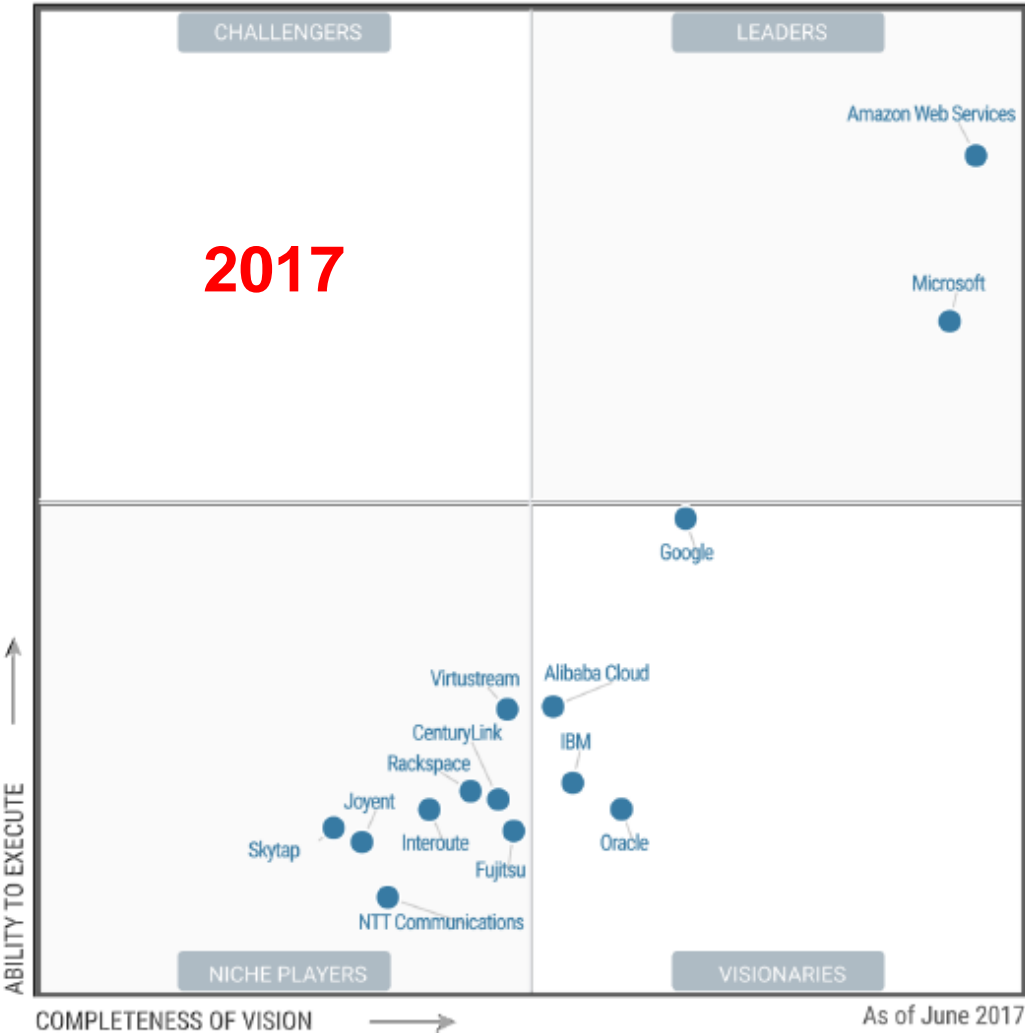| Cloud service	Data center	Provider	Technology
Public (global)	Worldwide	AWS, Microsoft, Google, IBM, Alibaba	Their own technology
Public (local)	Nationwide	Telkomtelstra, Telkom Sigma, Lintasarta, Datacomm, dll	VMWare, Azure Stack, OpenStack, IBM, Nutanix
Private	On premise	Internal company	VMWare, Azure Stack, OpenStack, IBM, Nutanix
Special purpose	Colocation or on premise	Oracle	Oracle

Azure vs Azure Stack
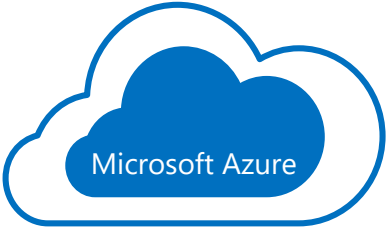
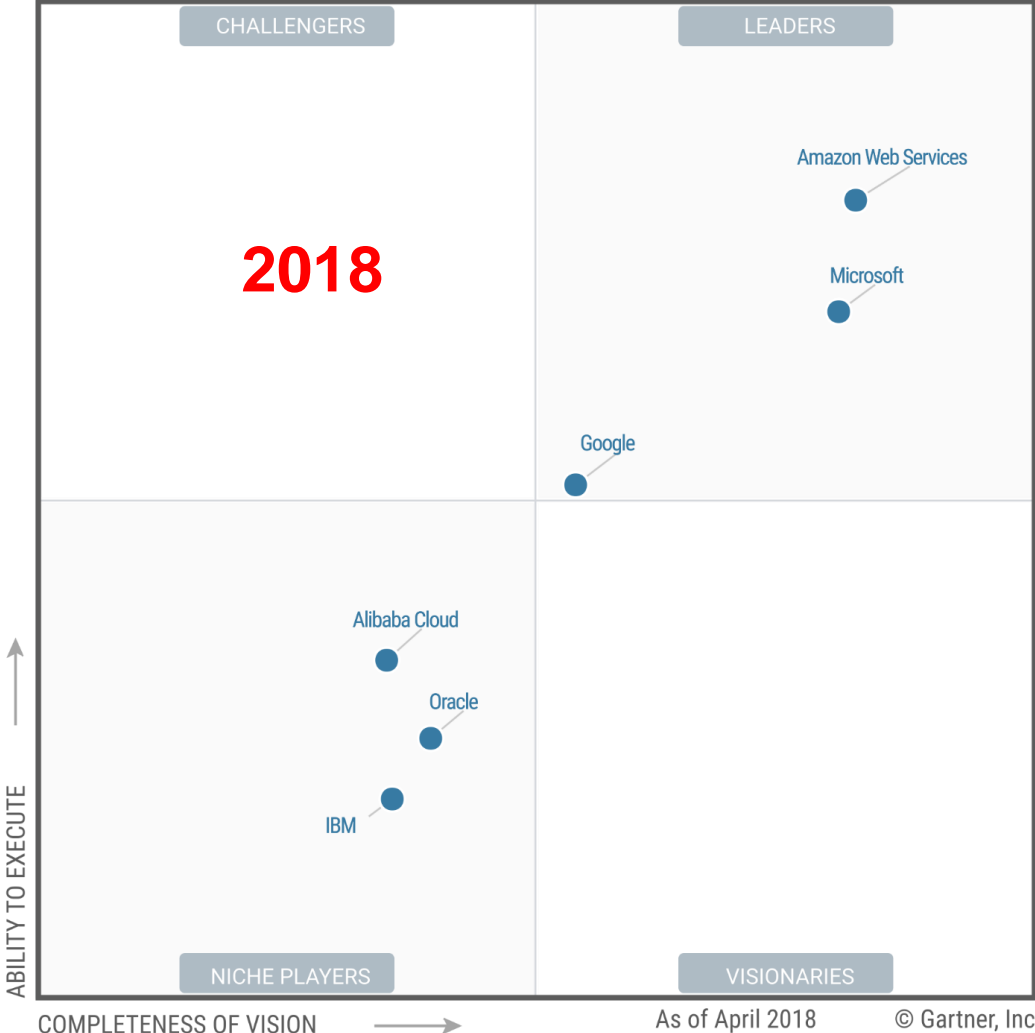| Area	Azure (Global)	Azure Stack
Who operates it?	Microsoft	Internal Organization or Service Provider
Who do you contact for support?	Microsoft	Internal Organization or Service Provider
Available Services	Available services vary by Azure region	Azure Stack supports a subset of Azure services
Region	You can select which region you want to deploy to.	For an Azure Stack integrated system, use the region that's available on your system

Global Cloud Magic Quadrant

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Magic Quadrant

Figure 1. Magic Quadrant for Cloud Infrastructure as a Service, Worldwide

2017

CHALLENGERS | LEADERS
NICHE PLAYERS | VISIONARIES

- Amazon Web Services
- Microsoft
- Google
- Virtustream
- Alibaba Cloud
- CenturyLink
- IBM
- Rackspace
- Joyent
- Skytap
- Interoute
- Fujitsu
- Oracle
- NTT Communications

ABILITY TO EXECUTE

COMPLETENESS OF VISION

As of June 2017

Source: Gartner (June 2017)

2018

CHALLENGERS | LEADERS
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- Oracle
- IBM

ABILITY TO EXECUTE
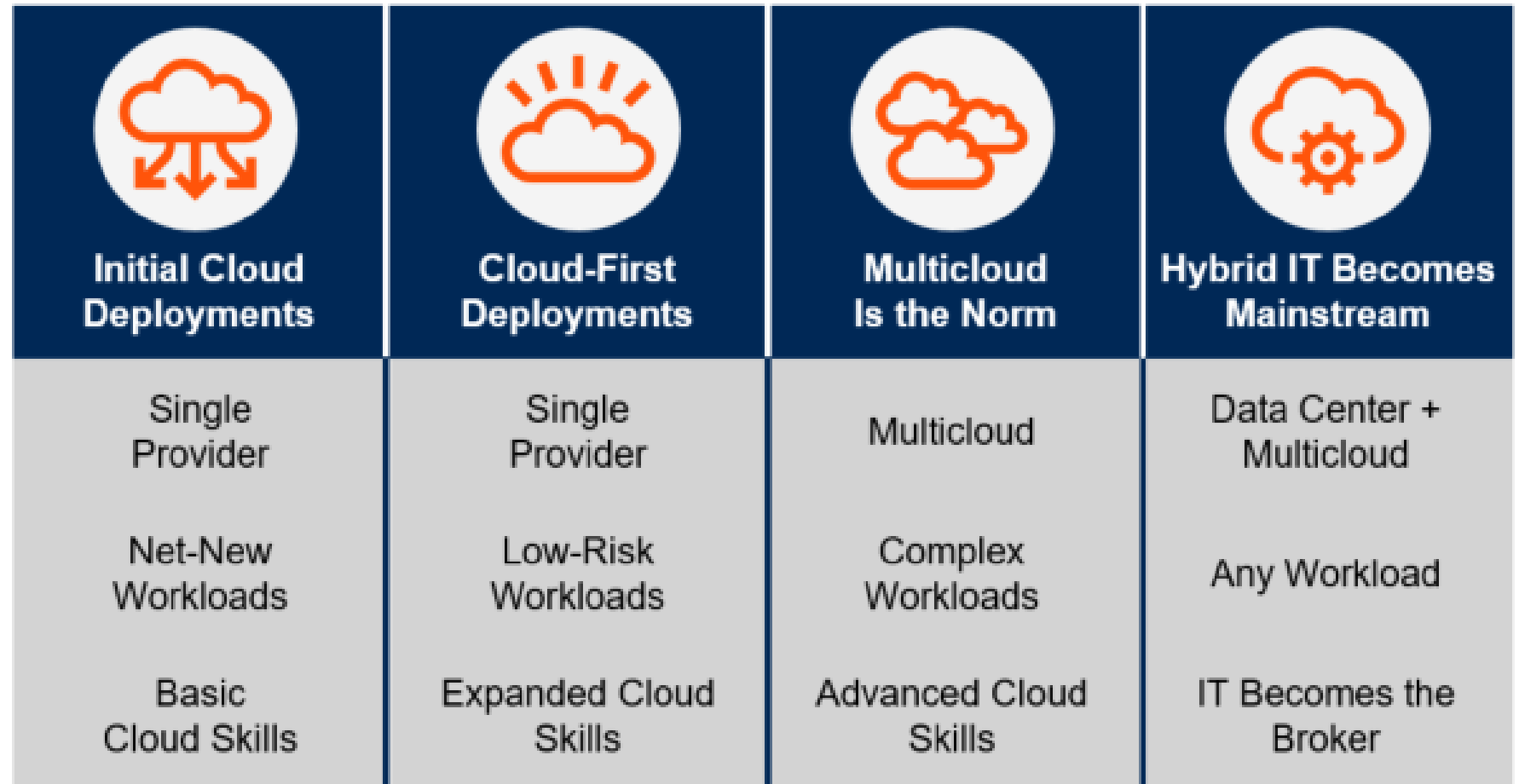
COMPLETENESS OF VISION

As of April 2018   © Gartner, Inc

Cloud's Evolution to Become Mainstream

In 2019, hybrid IT will be the standard. Technical professionals focused on cloud must continue to advance cloud-first strategies, embrace multi cloud and maintain on-premises environments, with a focus on integration and brokering.
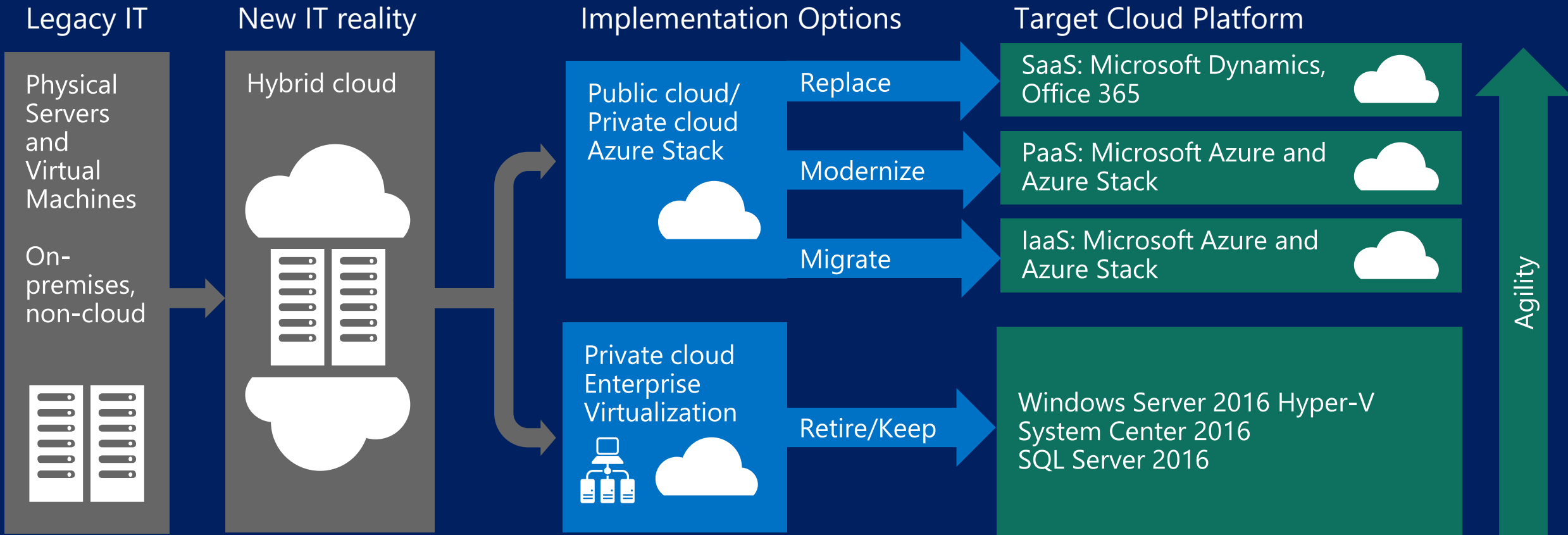
Source: Gartner

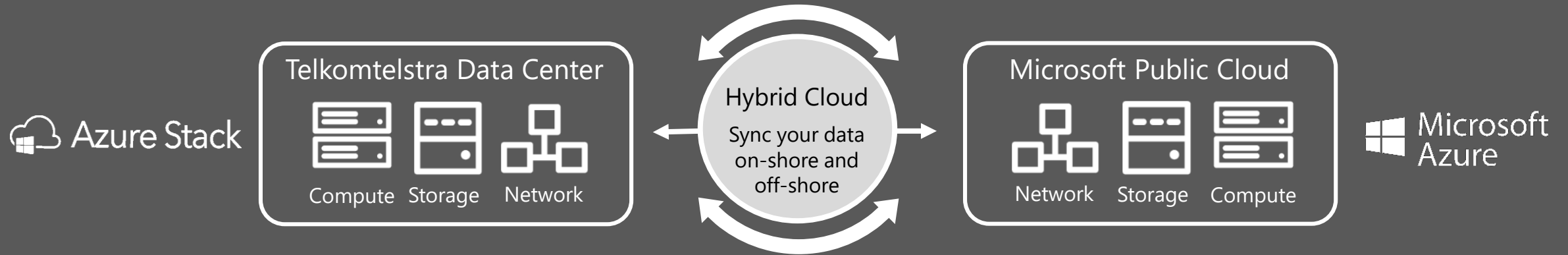| Initial Cloud Deployments	Cloud-First Deployments	Multicloud Is the Norm	Hybrid IT Becomes Mainstream
Single Provider	Single Provider	Multicloud	Data Center + Multicloud
Net-New Workloads	Low-Risk Workloads	Complex Workloads	Any Workload
Basic Cloud Skills	Expanded Cloud Skills	Advanced Cloud Skills	IT Becomes the Broker

Cloud Journey

Hybrid Cloud

Digital Cloud Infrastructure

Hybrid Cloud Strategy

Legacy IT

Physical Servers and Virtual Machines

On-premises, non-cloud

New IT reality

Hybrid cloud

Implementation Options

Public cloud/ Private cloud Azure Stack

Private cloud Enterprise Virtualization

Target Cloud Platform

Replace

Modernize

Migrate

Retire/Keep

SaaS: Microsoft Dynamics, Office 365

PaaS: Microsoft Azure and Azure Stack

IaaS: Microsoft Azure and Azure Stack

Windows Server 2016 Hyper-V
System Center 2016
SQL Server 2016

Agility

Hybrid Cloud
Build secure and flexible cloud capabilities

Azure Stack

Telkomtelstra Data Center

Compute   Storage   Network

Hybrid Cloud
Sync your data on-shore and off-shore

Microsoft Public Cloud

Network   Storage   Compute

Microsoft Azure

SaaS
- Video analytic
- E-Nota Dinas
- Digital signature*
- Enterprise mobile management*
- Business intelligent*

PaaS*
- Web Apps
- xSQL
- Functions
- API Apps
- IoT Hub

IaaS
- CPU, RAM, storage

Data Center   telkomsigma make·IT·faster by Telkom Indonesia
- Serpong
- Sentul
- Surabaya (TBD)

Office 365   Cloud Apps

Microsoft Azure

Azure Stack   Azure Public
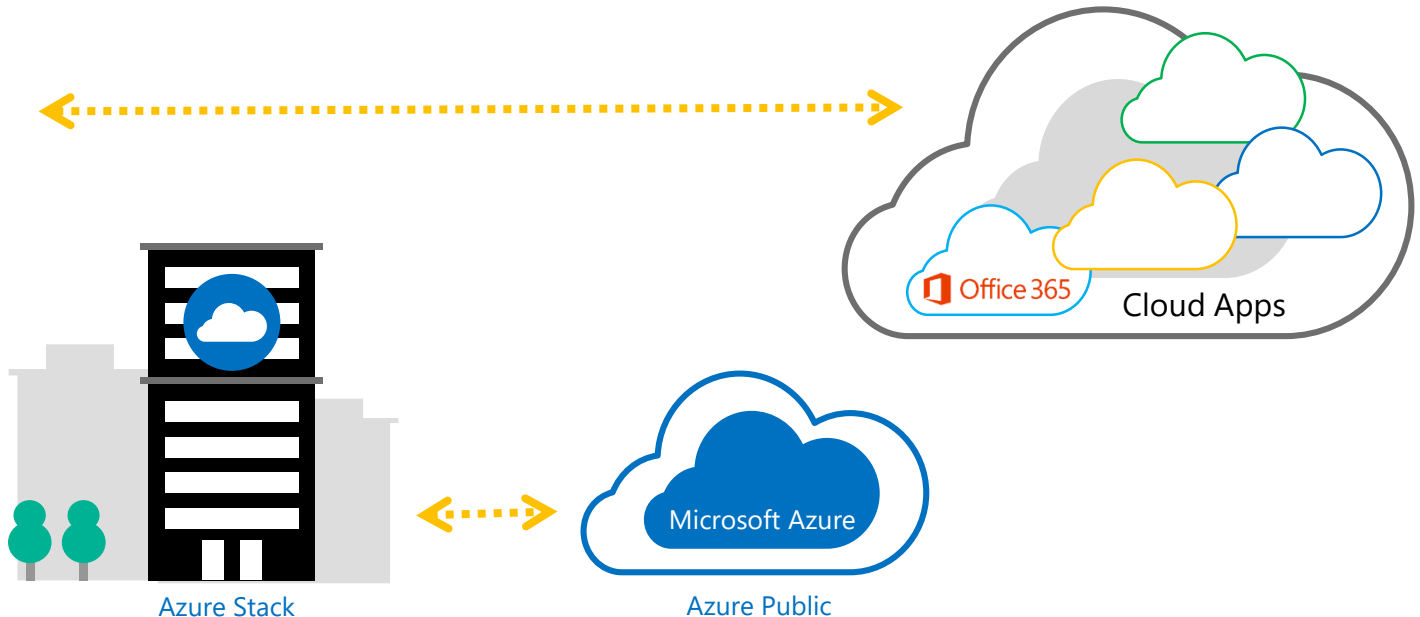
Cloud Journey

Hybrid Cloud

Digital Cloud Infrastructure

Build Your Innovaton with Azure

Innovation

Focus on the applications

Enable developers

Deliver new and reliable services quickly

Economics

Invest in competitive differentiators

Reduce capital expenditure

Flexibility
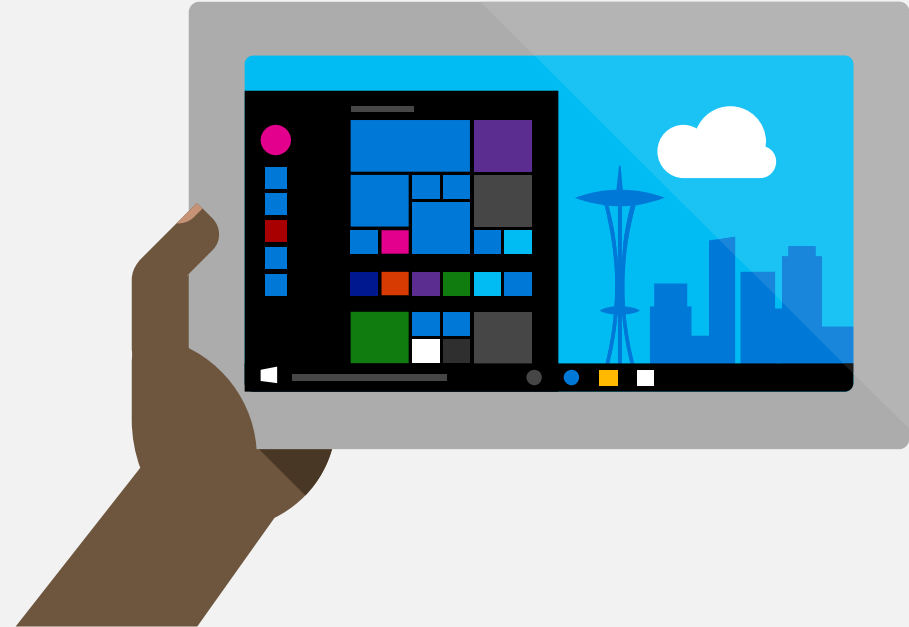
Choose where to deploy

Decrease risk of vendor lock-in

Reimagining the modern enterprise

| Datacenter without boundaries | Cloud innovation everywhere | Dynamic application delivery |

Azure Stack   Microsoft Azure

Virtual Machine

Apps Services

Restore

Back Up

SQL

IoT

Mobile Apps

Machine Learning

Media Service

Open API

Power BI

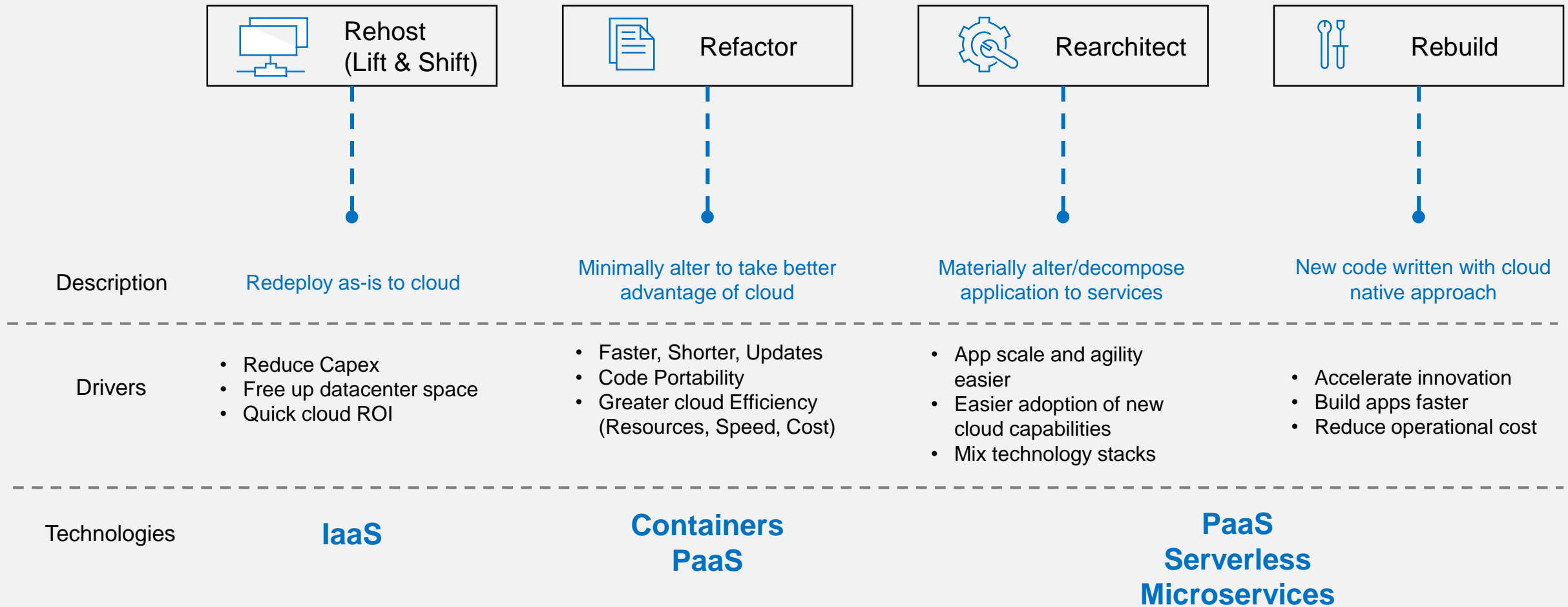Function

Active Directory

Batch AI

HD Insight

Container

Workload are Shifting To Cloud

	Rehost (Lift & Shift)	Refactor	Rearchitect	Rebuild
Description	Redeploy as-is to cloud	Minimally alter to take better advantage of cloud	Materially alter/decompose application to services	New code written with cloud native approach
Drivers	• Reduce Capex • Free up datacenter space • Quick cloud ROI	• Faster, Shorter, Updates • Code Portability • Greater cloud Efficiency (Resources, Speed, Cost)	• App scale and agility easier • Easier adoption of new cloud capabilities • Mix technology stacks	• Accelerate innovation • Build apps faster • Reduce operational cost
Technologies	**IaaS**	**Containers PaaS**		**PaaS Serverless Microservices**

Upcoming Service for Supporting Industry 4.0

Azure Function

Azure Function adalah layanan as a service yang berada dalam dunia architecture serverless yang memungkinkan kita untuk menjalankan fungsi aplikasi tanpa harus memikirkan cara mengoperasikan server tsb

Azure Machine Learning
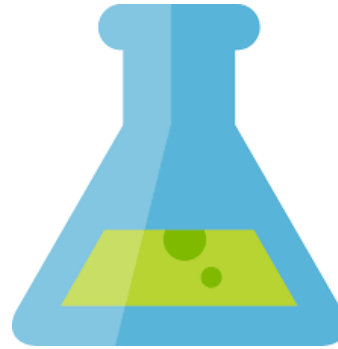
Azure Machine learning sebuah layanan cloud yang berfokus pada pengembangan sebuah system yang mampu belajar "Sendiri" tanpa harus diprogram berulang kali

Azure IoT Hub

Azure IoT Hub merupakan platform yang dapat menghubungkan perangkat sensor dengan solusi lain di cloud dengan fitur kemudahan intergrasi layanan Azure lainnya, seperti Azure stream analytics

Business Intelligence with Data Security and Classification
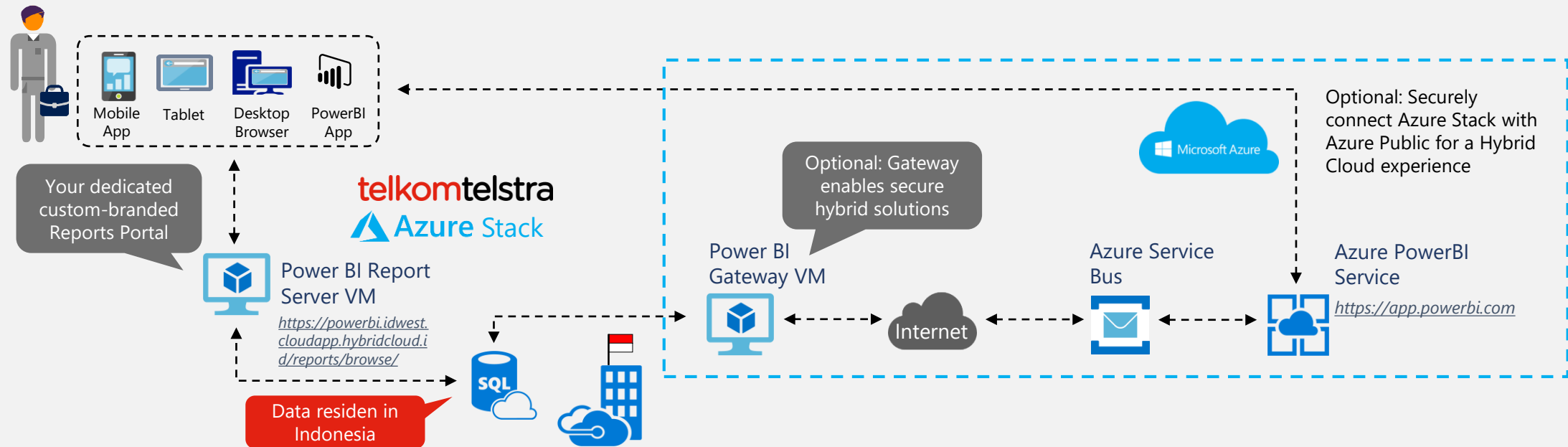
Build advanced data analytics by placing the sensitive data in local DC* and combining others data from internet & cloud, while also delivering with shopisticated business analytics portal.

*comply government regulation **PP.82 2012** of data sovereign

# Telkomtelstra Azure Stack

Trusted and Secure

Registered on Indonesia Government (Kominfo) and also accredited and complied with ISO 27001:2013. In the future on process of PCI DSS certification of banking industry.

Resilience Infrastructure

Support with 2 Azure Stack location in Indonesia with full capacity located in trusted DC provider which certified tier 3 support.
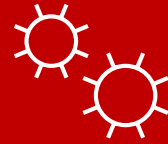
Complete Resources

- Standard operational procedures with ITIL framework.
- Certified people of Azure and cloud.
- Fully supported by Microsoft.

Experience

- Experience in delivering hybrid cloud services in Indonesia.
- Delivering apps solution which build on Azure Stack.

Extensive Services

Available diverse Azure Stack services from network & security, IaaS, PaaS, Container, SaaS and the latest version of Azure Stack system.

Empower Your Business with Confidence

Get started today with telkomtelstra