Cloud Computing

SEWP ZG527

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Cloud Computing: Definition

The US National Institute of Standards (NIST) defines cloud computing as follows:

Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

3-4-5 rule of Cloud Computing

NIST specifies 3-4-5 rule of Cloud Computing

3 cloud service models or service types for any cloud platform

4 deployment models

5 essential characteristics of cloud computing infrastructure

Characteristics of Cloud Computing

5 Essential Characteristics of Cloud Computing

Ref: The NIST Definition of Cloud Computing
http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf

On-demand self-service

Ubiquitous network access

Location transparent resource pooling

Rapid elasticity

Measured service with pay per use

Source: http://aka.ms/532

- On demand self-service
- Broad network access
- Resource pooling
- Rapid elasticity
- Measured service
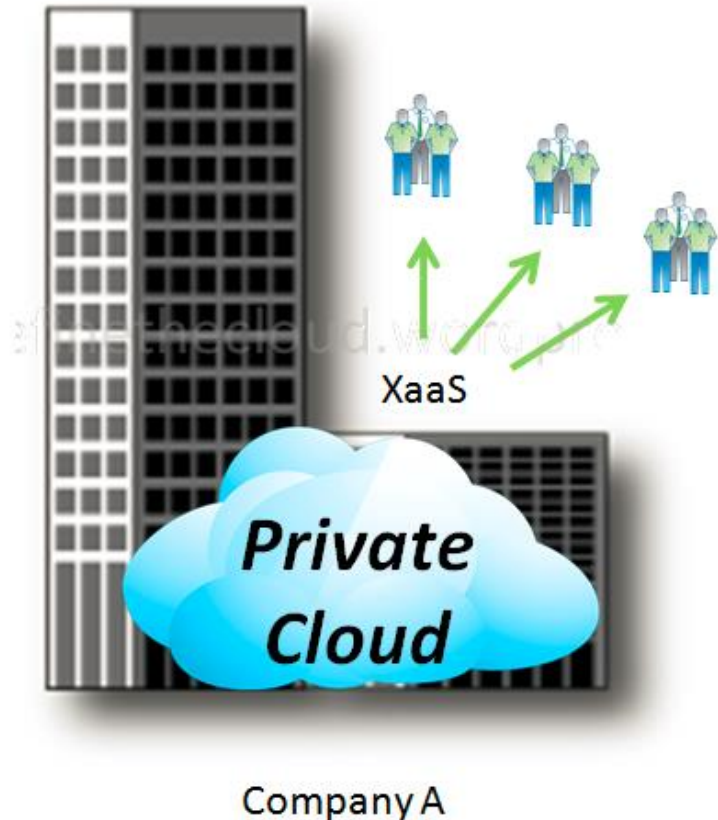
4 Deployment Models

1. Public Cloud
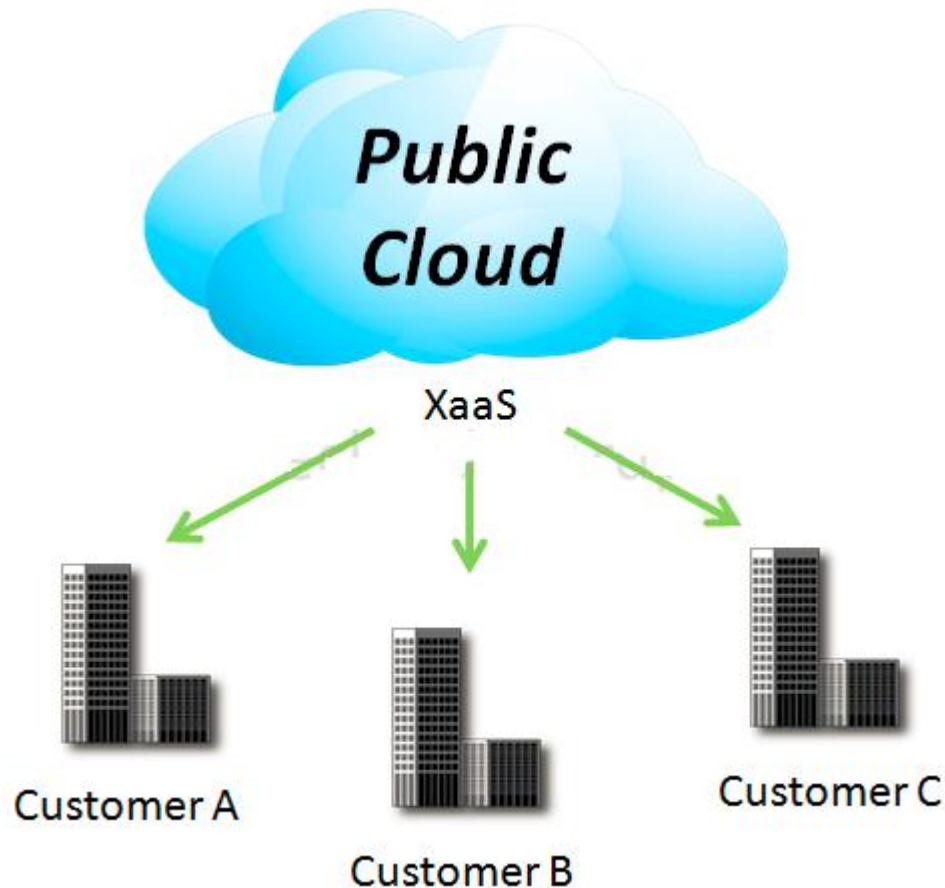
Mega-scale cloud infrastructure is made available to the general public or a large industry group and is owned by an organization selling cloud services.
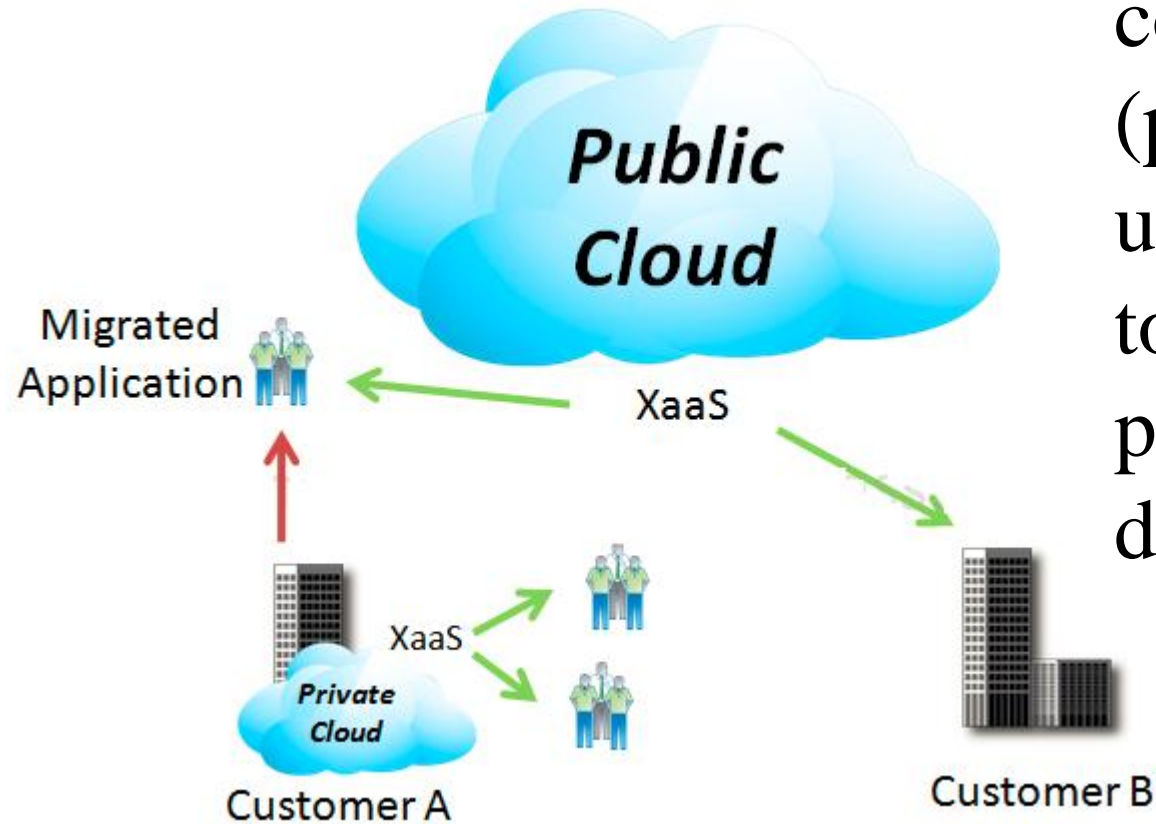
4 Deployment Models

2. Private Cloud

XaaS

Private Cloud

Company A

The cloud infrastructure is operated solely for an organization. It may be managed by the organization or a third party and may exist on premise or off premise.
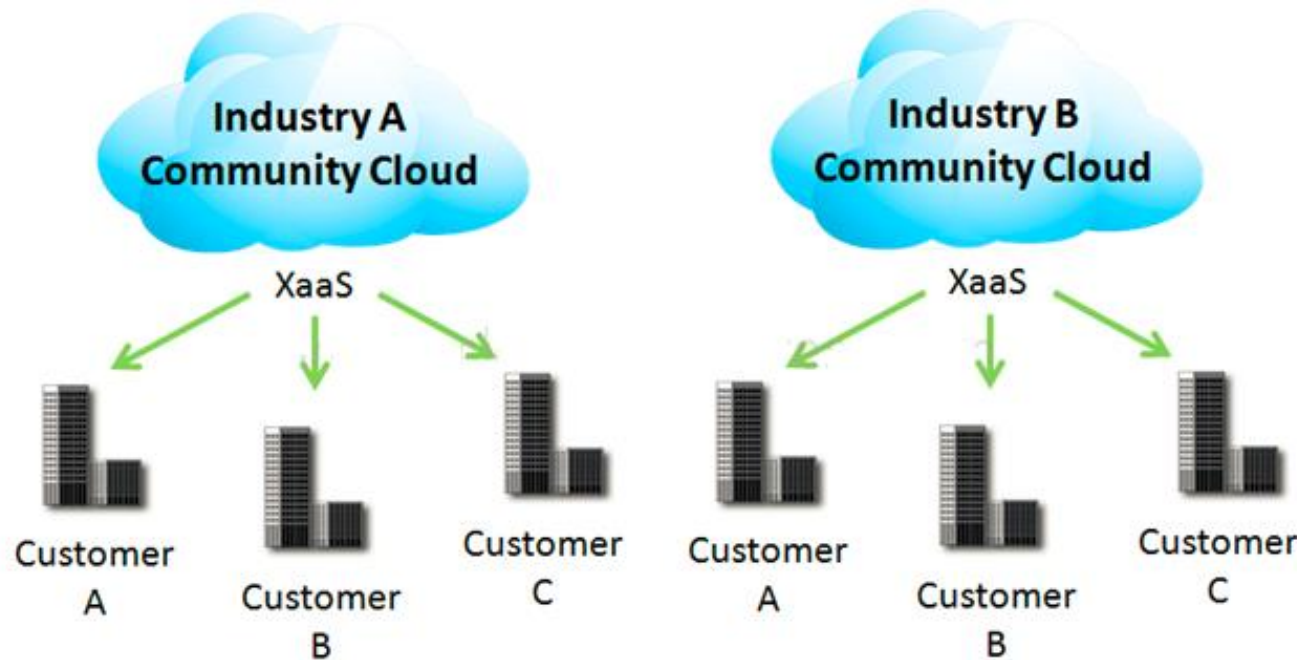
4 Deployment Models

3. Hybrid Cloud

The cloud infrastructure is a composition of two or more clouds (private or public) that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability

4 Deployment Models

4. Community Cloud

Community Clouds are when an 'infrastructure is shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy, and compliance considerations). It may be managed by the organizations or a third party and may exist on premise or off premise' according to NIST.
A community cloud is a cloud service shared between multiple organizations with a common tie/goal/objective.
E.g. OpenCirrus