Cloud Computing

SEWP ZG527

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Paas Example

- PaaS does not typically replace a business' entire infrastructure. Instead, a business relies on PaaS providers for key services, such as Java development or application hosting.
- For example:

  Deploying a typical business tool locally might require an IT team to buy and install hardware, operating systems, middleware (such as databases, Web servers and so on) the actual application, define user access or security, and then add the application to existing systems management or application performance monitoring (APM) tools. IT teams must then maintain all of these resources over time.

  Paas solution: A PaaS provider, however, supports all the underlying computing and software; users only need to log in and start using the platform – usually through a Web browser interface.

Paas Example: Windows Azure

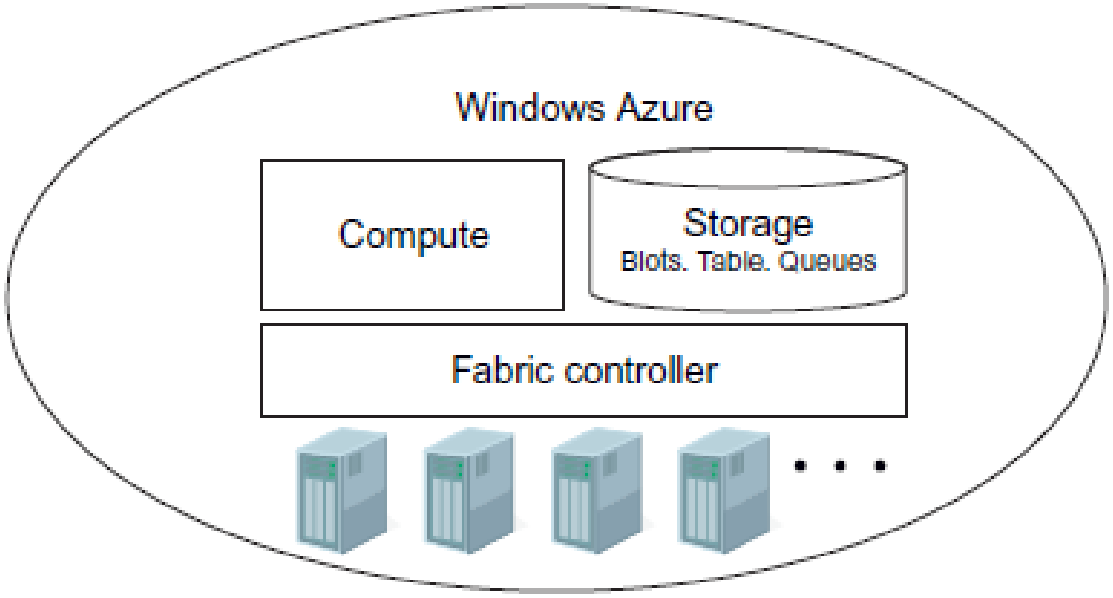
- Windows Azure is Microsoft's operating system for cloud computing.
- Windows Azure is intended to simplify IT management and minimize up-front and ongoing expenses
- To this end, Azure was designed to facilitate the management of scalable Web applications over the Internet.
- Windows Azure can be used to create, distribute and upgrade Web applications without the need to maintain expensive, often underutilized resources onsite.
- New Web services and applications can be written and debugged with a minimum of overhead and personnel expense.

Paas Example: Windows Azure

- The Azure operating system is the central component of the company's Azure Services Platform, which also includes separate application, security, storage and virtualization service layers and a desktop development environment.
- Windows Azure supports a wide variety of Microsoft and third-party standards, protocols, programming languages and platforms. Examples include XML (Extensible Markup Language), REST (representational state transfer), SOAP (Simple Object Access Protocol), Eclipse, Ruby, PHP and Python.
- Although it faces steep competition from Amazon Web Services (AWS), Microsoft Azure has managed to hold a strong second place among cloud hosting platform providers. http://azure.microsoft.com/en-us/

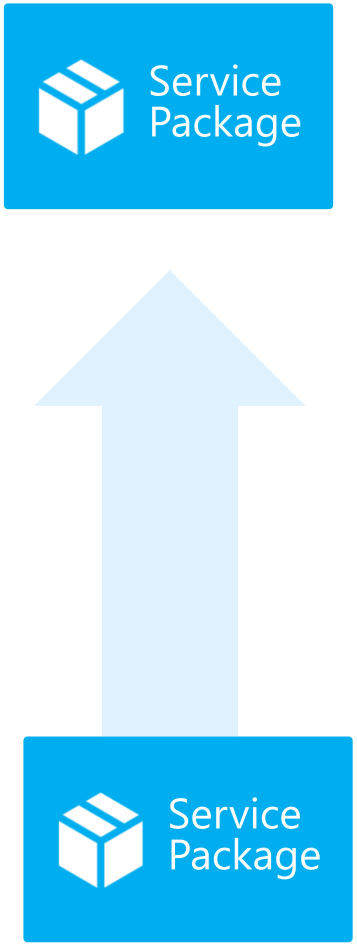
Windows Azure Runtime Environment

- The Windows Azure runtime environment provides a scalable compute and storage hosting environment along with management capabilities. It has three major components: Compute, Storage and the Fabric Controller



Windows Azure Runtime Environment

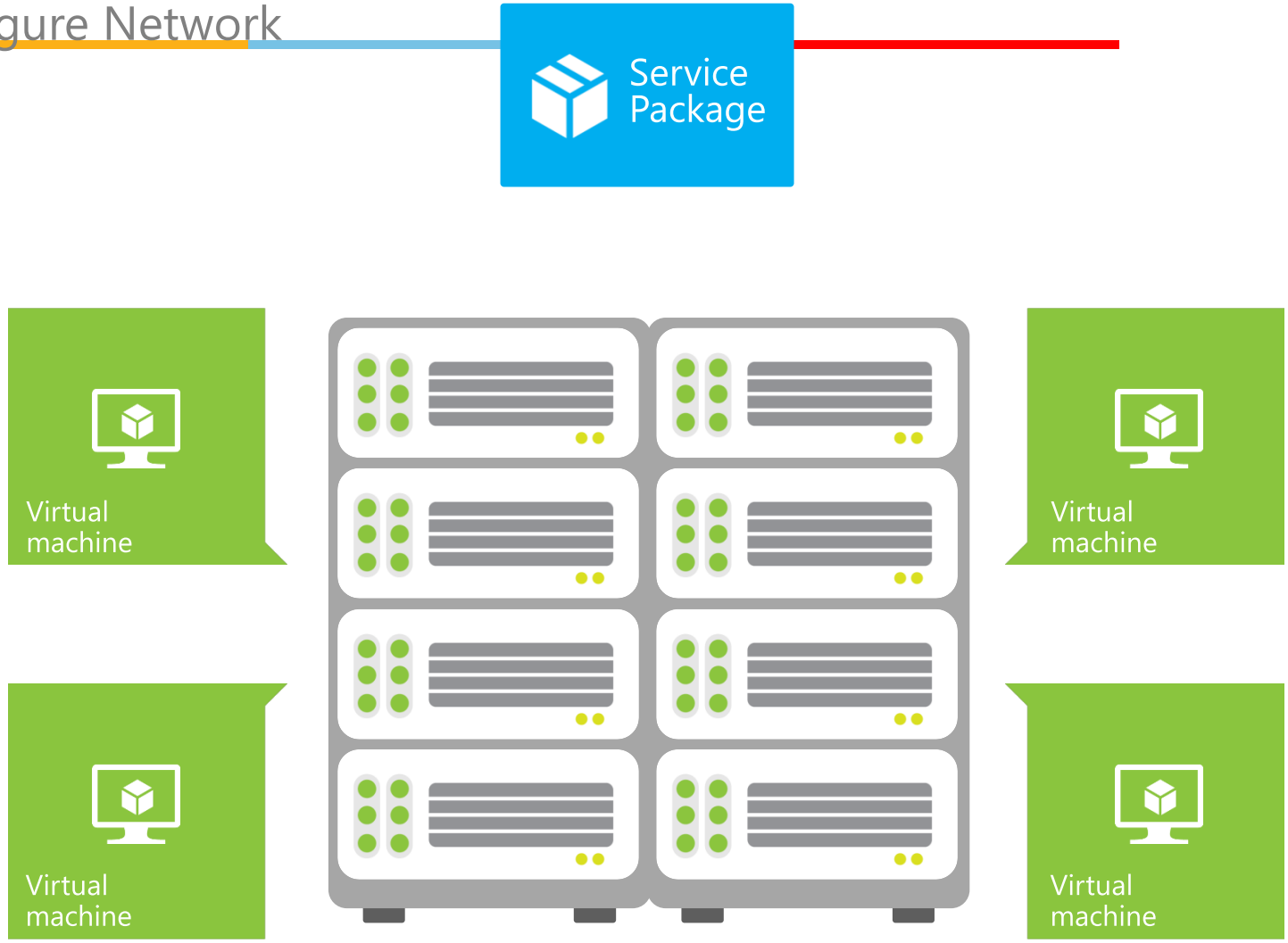
- The hosting environment of Azure is called the **Fabric Controller**. It has a pool of individual systems connected on a network and automatically manages resources by load balancing and geo-replication. It manages the application lifecycle without requiring the hosted apps to explicitly deal with the scalability and availability requirements. Each physical machine hosts an Azure agent that manages the machine.
- The **Azure Compute Service** provides a Windows-based environment to run applications written in the various languages and technologies supported on the Windows platform.
- The Windows **Azure storage service** provides scalable storage for applications running on the Windows Azure in multiple forms. It enables storage for binary and text data, messages and structured data through support for features called Blobs,Tables, Queues and Drives.


Service Package
Service Package

Provision Role Instances

Deploy App Code

Configure Network



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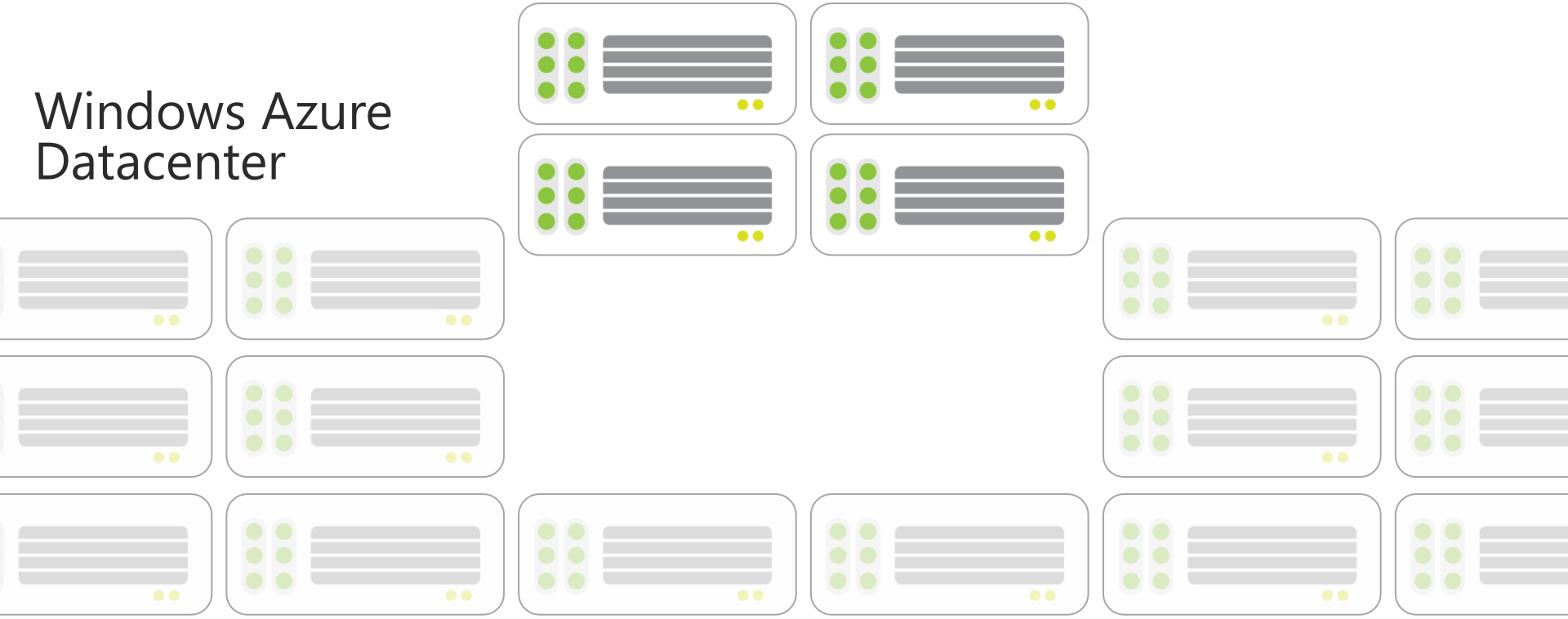
Windows Azure Datacenter



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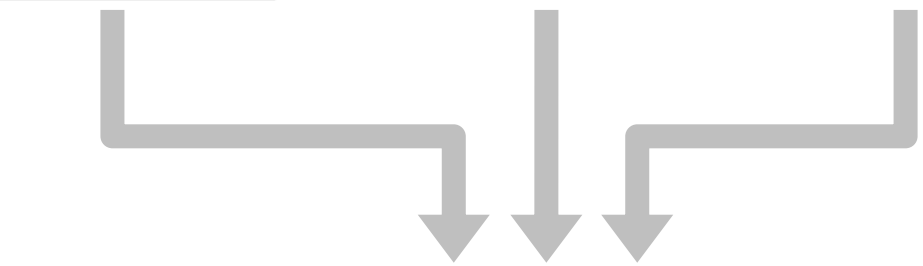

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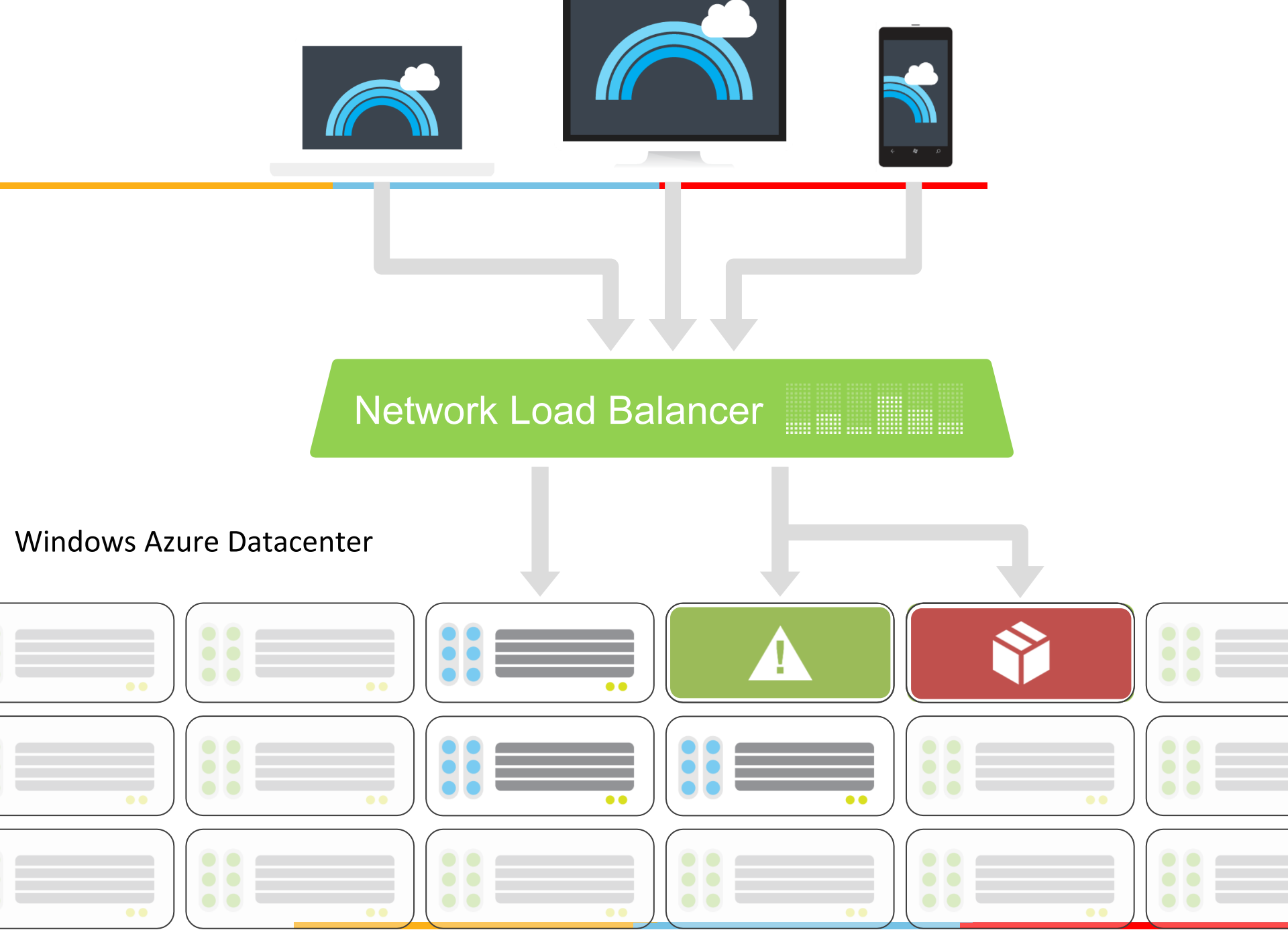
Windows Azure
Datacenter


Network Load Balancer
Windows Azure Datacenter

Paas Vendors

- Common PaaS vendors include Salesforce.com's Force.com, which provides an enterprise customer relationship management (CRM) platform. PaaS platforms for software development and management include Appear IQ, Mendix, Amazon Web Services (AWS) Elastic Beanstalk, Google App Engine and Heroku.

THANK YOU