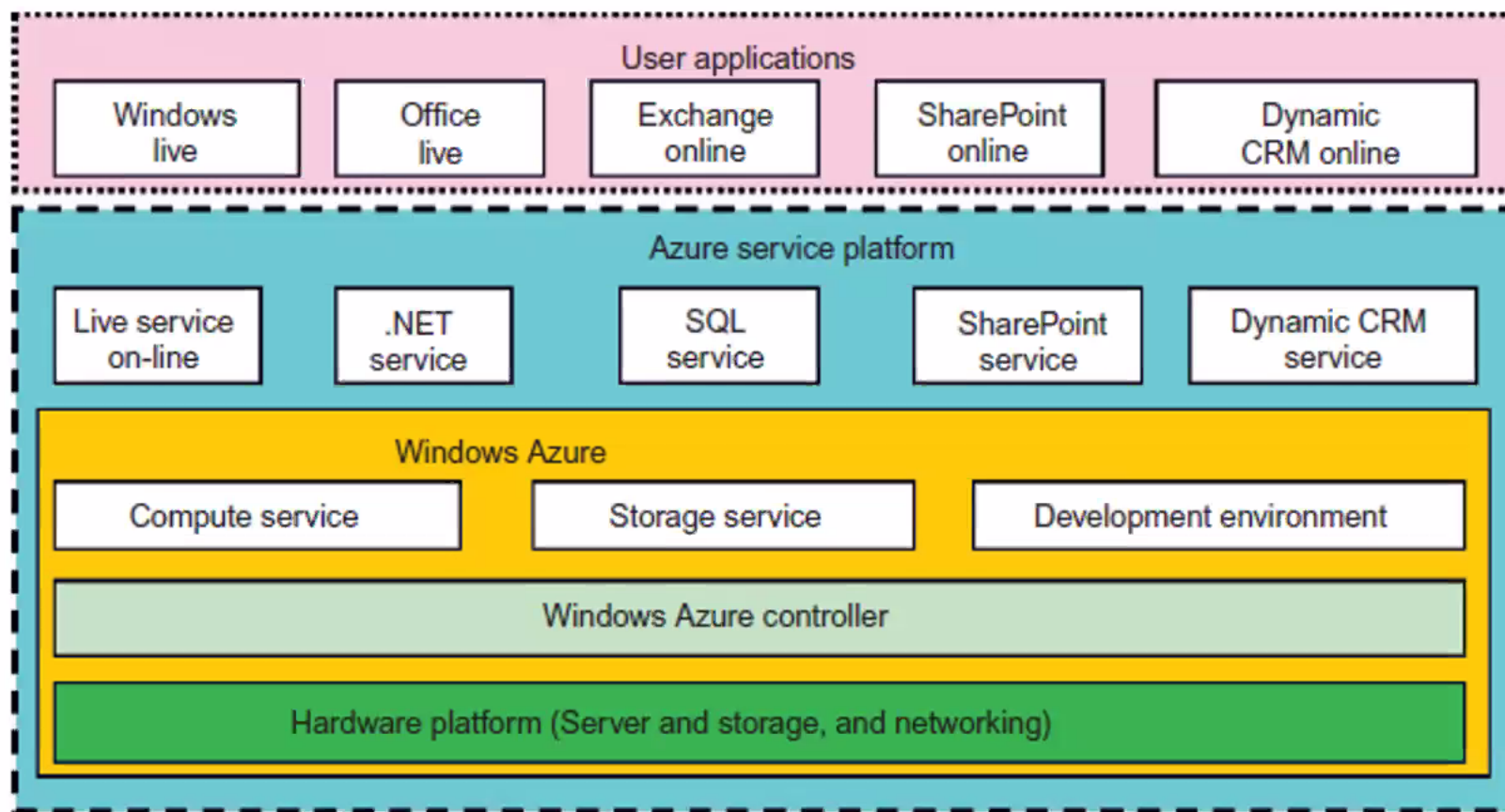


Windows Azure™



Microsoft Windows Azure platform for cloud computing



Windows Azure offers a cloud platform built on Windows OS and based on Microsoft virtualization technology.

Applications are installed on VMs deployed on the data-center servers. Azure manages all servers, storage, and network resources of the data center. On top of the infrastructure are the various services for building different cloud applications.



Cloud-level services provided by the Azure platform are introduced below.

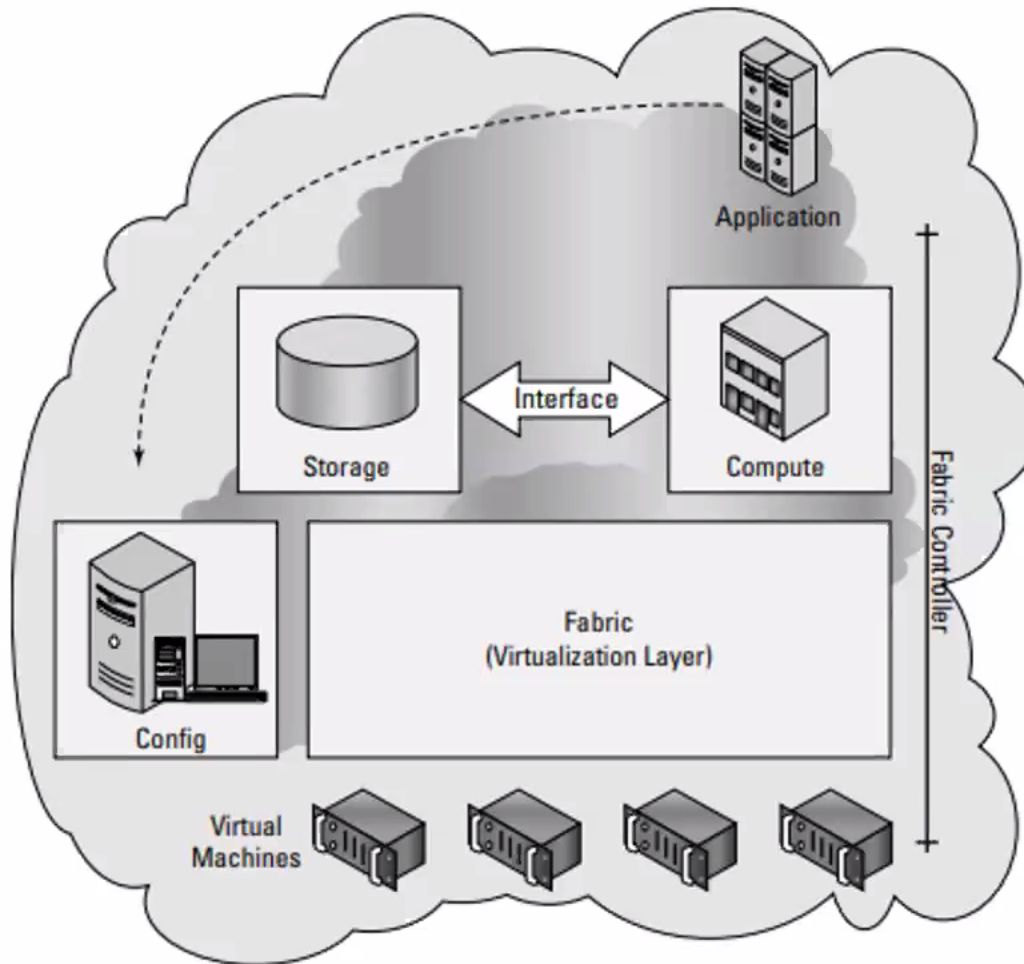
- ❑ **Live service** Users can visit Microsoft Live applications and apply the data involved across multiple machines concurrently.
- ❑ **.NET service** This package supports application development on local hosts and execution on cloud machines.
- ❑ **SQL Azure** This function makes it easier for users to visit and use the relational database associated with the SQL server in the cloud.
- ❑ **SharePoint service** This provides a scalable and manageable platform for users to develop their special business applications in upgraded web services.
- ❑ **Dynamic CRM service** This provides software developers a business platform in managing CRM applications in financing, marketing, and sales and promotions.



All these cloud services in Azure can interact with traditional Microsoft software applications, such as Windows Live, Office Live, Exchange online, SharePoint online, and dynamic CRM online. The Azure platform applies the standard web communication protocols SOAP and REST.

The Azure service applications allow users to integrate the cloud application with other platforms or third-party clouds.

The Windows Azure Service



Windows Azure is a virtualized infrastructure that provides configurable virtual machines, independent storage, and a configuration interface



Six main elements are part of Windows Azure:

Application: This is the runtime of the application that is running in the cloud.

Compute: This is the load-balanced Windows server computation and policy engine that allows you to create and manage virtual machines that serve either in a Web role and a Worker role.

A Web role is a virtual machine instance running Microsoft IIS Web server that can accept and respond to HTTP or HTTPS requests.

A Worker role can accept and respond to requests, but doesn't run IIS in that virtual machine. Worker roles can communicate with Azure Storage or through direct connections to clients.



Storage: This is a non-relational storage system for large-scale storage. Azure Storage Service lets you create drives, manage queues, and store BLOBs (Binary Large Objects). Azure Storage plays the same role in Azure that Amazon Simple Storage Service (S3) plays in Amazon Web Services. For relational database services, SQL Azure may be used.

Fabric: This is the Windows Azure Hypervisor, which is a version of Hyper-V that runs on Windows Server 2008.

Config: This is a management service/Virtual machines: These are instances of Windows that run the applications and services that are part of a particular deployment.



'Software plus Services' Approach

- Microsoft sees the cloud as being a complimentary platform to its other platforms.
- Microsoft developer can extend his application's availability to the cloud. The application runs on a server, desktop, or mobile device running some form of Windows products.
- Microsoft calls this approach *Software Plus Services*.
- The approach provides benefits of both traditional physical-based software and Web-based SaaS delivery methods.
- The Windows Azure Platform allows a developer to modify his application so that it can run on Microsoft cloud's virtual machines.
- Windows Azure serves as a cloud OS and the application can be hosted on Azure as a runtime application.