

Azure Services

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opiframe

Azure Services

- * **Azure is still a work in progress and has massive number of moving parts.**
- * Azure has a huge scope and has a number of ways to carry out each wanted service. In practice the needs can be divided to business users and developers.
- * A word of warning: Azure naming is constantly changing!

Azure Services

- * Services used to a public website (possibly for eCommerce) would require following:
 - * 1) Hosting a web application solution:
 - * Azure Websites or Cloud Services Web Role or VM
 - * 2) Place to store data:
 - * Azure SQL or Cloud Storage (Table or Blob) or DocumentDb or VM hosting for your own DB.
 - * 3) Way to cache data to improve performance:
 - * Azure Redis Cache

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- * 4) A link to an existing blog for customer interaction and community relations:
 - * Azure Websites Gallery link to Wordpress Blog or Jumo Blog
- * 5) Common delivery network so images and JavaScript files are globally available quickly:
 - * Azure CDN
- * 6) Some kind of backup in case of failure:
 - * Azure Backup

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- * 7) Some kind of scaling rules to deal with seasonal changes in requests and sudden spikes
 - * Azure Traffic Manager, AutoScale
- * 8) Continuous performance monitoring to see what changes should be done:
 - * Azure Portal, Monitoring Alerts, Autoscale
- * 9) Monitoring running application in real-time to see logging data to see what went wrong within application itself:
 - * Application Insights, Azure Websites Diagnostics

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- * Additional services are necessary to ensure smooth business:
 - * 1) Some authentication system to manage logins and users (with Oauth protocols) and support to social logins (Facebook, Twitter, Google Plus)
 - * Azure Multi-Factor Authentication
 - * 2) Users should be able to search the web site to see content
 - * Azure Search
 - * 3) Short Videos of the content should be available
 - * Azure Media Services

Azure Services

- * 4) User input should not be lost as they try to save shopping purchases in database.
 - * Azure Storage Queue, Azure Service Bus
- * 5) At the end of day the sales data and cleanup processes should be carried out in off peak hours:
 - * Azure Cloud Service Worker Role, WebJobs, Azure Automation, Azure Scheduler
- * 6) Management wants reports for sales and other business processes as well as data and predictions about customers:
 - * Azure HD Insight, Azure Machine Learning

Azure Services

- * 7) Interested customers should be able to get notifications on products they have reserved or what they might want to buy in future:
 - * Notification Hub
- * 8) Whole application needs to be accessible to third-party developers so they can build their own storefronts on top of existing storefront website:
 - * Azure API Management, Azure Mobile Services, Azure Websites hosting API

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- * When company sales grow they need to be able to expand IT resources as company size grows:
 - * 1) When sales increase there should be a way to rapidly configure company servers as necessary:
 - * Azure Virtual Machines
 - * 2) Everything must be able to support hybrid strategy with some servers ran by company and others kept in cloud and also be fully backed up in case any data center goes down:
 - * Azure SimpleStor, Azure Backup, Azure File Service, Azure Site Restore, Azure Hyper-V Recovery Manager

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- * 3) Eventually entire company personnel must have centralized user access management for cloud:
 - * Azure Active Directory
- * 4) When company grows to a global giant users across the globe need to access its servers:
 - * Azure Virtual Network, Azure VPN, ExpressRoute, Azure Remote App

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- * This whole application must be created:
 - * 1) Developers need software IDE to write program:
 - * Visual Studio Online
 - * 2) Whole software must be developed in Agile manner so it is implemented and tested in stages until ultimately put to production:
 - * Azure Websites Staged Publishing
 - * 3) None this can be done without source control
 - * Azure Websites Publish from Source Control

Azure Services

- * 4) Load testing the software is done using Microsoft's or 3rd Party tools
 - * Visual Studio Online, 3rd party tools
- * 5) Probably some of the code uses old legacy system that is not compatible with new software and they need to talk using XML, JSON or some other method:
 - * Azure BizTalk

Saas, Paas or Iaas?

- * **Microsoft Azure is a cloud computing platform/infrastructure.**
- * Currently most important things in minds of many corporate users of cloud computing are SaaS, IaaS and PaaS. They refer to three fundamental ways cloud computing is used to offer services.

SaaS, PaaS or IaaS?

- * **SaaS or Software as a Service means that there is a service provider in cloud that has some software which is then licensed to user.**
- * User then accesses this software through thin client (typically web browser). For instance, Steam is a popular gaming service that works with SaaS principle.
- * Virtual desktop solutions also typically use SaaS.

SaaS, PaaS or IaaS?

- * **PaaS or Platform as a Service means that there is a service provider in cloud that provides a platform for computing.**
- * User then accesses this platform and deploys there her own web applications which she can update and modify as she pleases.
- * The real advantage is that there is no need to build up individual servers or group of servers as it is all readily available from service provider. For instance, Microsoft Azure has cloud services which allow building web services.
 - * Possible application would be company's internal travel billing software.
- * Since services built may be internal or for external users there is also talk of private, public, hybrid, mobile and open clouds depending what is wanted.

SaaS, PaaS or IaaS?

- * **IaaS or Infrastructure as a Service means that there is a service provider in cloud that offers computers (typically virtual computers) as resources.**
- * This is almost always extended to other parts of infrastructure such as load balancers, storage, IP addresses, virtual machine disk image libraries etc. User will then administer the whole infrastructure as if she was running a server room of her own.
- * Main advantage here is that infrastructure is rapidly scalable to meet changing circumstances.

Azure as Architecture

- * **Individual Azure services can be mixed as necessary.**
- * Azure offers "A la Carte" solution as architecture.
 - * Location and legacy systems important.
- * Ultimately question is a balance between control and responsibility.

Questions?