

Microsoft Corporation

# Microsoft Azure Handbook for UK CSVs & ISVs

Lee Corbett  
Microsoft Azure CSV Business Development Manager  
e: [lcorbett@microsoft.com](mailto:lcorbett@microsoft.com)  
t: +44 118 909 2494  
Twitter: @LeeCorb



# Microsoft Azure Handbook for UK CSVs & ISVs

This guide has been developed for Microsoft Cloud Service Vendors (CSVs) and Independent Software Vendors (ISVs) who are developing applications and services on the Azure Cloud platform. The content has been driven by frequently asked questions from customers and partners.

It is provided to you under NDA or under Section 7 of the MPN Terms and conditions.

*We introduce new Azure features on average every 36 hours, therefore keeping this information up to date is a challenge. This document is updated every 3 months and it is loaded on to OneDrive [here](#).*

Section	Topic	Page
1	Azure Overview	3
2	Getting Started with Microsoft Azure	7
3	Initial Education, Training, & Assistance	9
4	Azure Technical Documentation	10
5	Azure for Test & Development	17
6	Azure Pricing	18
7	Azure Purchase Options	20
8	Azure Terms & Conditions, and Licensing	22
9	Azure Support	23
10	Security, Privacy, & Compliance	25
11	Microsoft Azure Go To Market Support for CSVs & ISVs	27
12	Microsoft Azure Marketplace	28
13	MPN and BizSpark for Azure CSVs & ISVs	29
14	Frequently Asked Questions	30
A1	APPENDIX 1: Azure Enterprise Agreement	31
A2	APPENDIX 2: Third Party Tooling	32
A3	APPENDIX 3: ISVs/CSVs on Azure	33
A4	APPENDIX 4: Support for Third Party solutions	36
A5	APPENDIX 5: Moving to the Cloud	37

# 1. Microsoft Azure Overview



## Microsoft Azure

Azure is Microsoft's cloud computing platform, a growing collection of integrated services—analytics, computing, database, mobile, networking, storage, and web—for moving faster, achieving more, and saving money. Here's what else Azure is....

- <http://azure.microsoft.com/>

## WHAT IS AZURE?

- Here's what else Azure is....
  - <http://azure.microsoft.com/en-us/overview/what-is-azure/>
- **A cloud Platform with choice** – Microsoft Azure is the only major cloud platform that offers IaaS and PaaS services and is Hybrid ready, to suit the needs of you and your customers.
- **Always up, Always on** - Microsoft Azure delivers a 99.95% monthly SLA and enables you to build and run highly available applications without focusing on the infrastructure.
- **Open** - Microsoft Azure enables you to use any language, framework, or tool to build applications. Features and services are exposed using open REST protocols.
- **Unlimited servers. Unlimited storage** - Microsoft Azure enables you to easily scale your applications to any size. It is a fully automated self-service platform that allows you to provision resources within minutes.
- **Market Leading solution** - With better price for performance than Amazon EC2, better interoperability with Microsoft Apps, and end-to-end support for Oracle, it's no surprise over 57% of Fortune 500 companies are using Microsoft Azure.
- **Powerful Capabilities** - Microsoft Azure delivers a flexible cloud platform that can satisfy any application need:
- **See it in Action:**
  - [Microsoft Azure "You Tube" channel](#)
  - [Microsoft Azure Infographics](#)

## WHAT ARE CUSTOMERS DOING WITH AZURE YOU DO WITH IT?

- See what customers are doing at: [Microsoft Azure Case Studies](#). Here is just a snapshot of what people are building with Microsoft Azure:
  - **Modern Apps** - Build & deploy modern, cross platform web and mobile apps & services
  - **Hybrid** - Store, backup and recover your data in the cloud
  - **LOB Applications** - Run your enterprise applications on Azure
  - **Media** - Encode, store and stream audio and video at scale
  - **High Performance Computing (HPC)** - Run large scale compute jobs
  - **Data + Analytics** - perform powerful predictive analytics to gain insights
  - **Internet of Things (IoT)** - Build intelligent products and services leveraging Internet of Things services
  - **Identity and Access** - get single sign on across Azure, Office 365 and hundreds of popular SaaS services

## AZURE BY NUMBERS (MAY 2015)

### Overview

- > \$15bn in DC investments
- > 80% of the Fortune 500 use Microsoft Azure (<12 months ago this was only 50%)
- > 425m Azure Active Directory users
- > 90,000 NEW customers a month (up from 7000 customer a week)
- > 40% of Azure's revenue came from start-ups and 3rd-party independent software vendors (ISVs).
- New functionality is delivered, on average every 36 hours
- 22 x Regions (More than Amazon and Google combined) and each Data centre is one football pitch in size (there are 4+ in Dublin), with the capacity to run up to 600,000 servers in every region (11.4 million servers across all regions)
- One of the top 3 networks in the world (coverage, speed, connections)

### Features

- 75% of deployments on IaaS
- > 20% of VMs deployed on Azure are Linux
- Doubled capacity every 6 months for the past 24 months
- G Series – Largest VM available in the market – 32 cores, 448GB RAM, SSD...
- >500 Million Azure Active directory users
- > 18 billion Azure active directory authentications per week)
- 1.5m SQL Databases in Azure
- 160,000 SQL Databases created/dropped per day
- 50 Trillion Storage Objects in Azure
- > 3m developers registered with Visual Studio Online (10% month on month growth)
- Xbox Titanfall – 300,000 VMs were spun up for launch

## HOW DO WE COMPARE WITH OUR COMPETITORS?



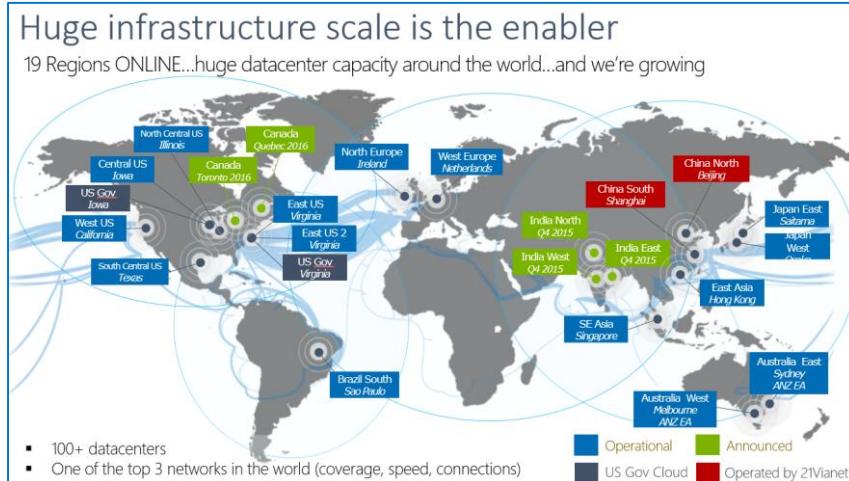
### Hyper-scale, Enterprise Grade, Hybrid

Azure is the only major cloud platform ranked by Gartner as an industry leader for both infrastructure-as-a-service and platform-as-a-service. This powerful combination of managed and unmanaged services lets you build, deploy, and manage applications any way you like. Giving you unmatched productivity, infinite scale, and enterprise class capability.

- [Why are customers picking Azure vs Amazon?](#)
- [Magic Quadrant for Infrastructure as a Service \(IaaS\) – Gartner](#)
- [Magic Quadrant for Enterprise Application Platform as a Service \(PaaS\) – Gartner](#)
- [Magic Quadrant for Public Cloud Storage – Gartner](#)
- [Magic Quadrant for Operational Data Management Systems – Gartner](#)
- [Who is protecting your Data from Government Requests – Electronic Frontier Foundation](#)
- [A Comparative Analysis of 5 Large Cloud IaaS Providers – Cloud Spectator Study](#)
- [Forrester names Microsoft as a Leader in Agile Business Intelligence](#)
- [Microsoft By Numbers](#)
- [Top 10 Security, Privacy & Compliance questions to ask your Cloud service provider](#)

## AZURE REGIONS - "Powering the Microsoft Cloud"

- Global Foundation Services (GFS) – delivers the core infrastructure for Microsoft's online businesses (Azure, O365, OneDrive, Xbox etc).
  - <http://www.globalfoundationservices.com/>
- Microsoft has 19 x live Regions and each region has multiple datacentres (e.g. Dublin has 4). Each Region is paired with another region for Resilience purposes
- A list of the Microsoft Datacentres are below:
  - [Microsoft Datacentres by Region](#)
  - [Services available by Data centre](#)
- Useful Links:
  - [Take a tour of a Datacentre](#)
  - [What is my nearest Datacentre Region](#)
  - [What are the Microsoft Data Centre IP Ranges](#)
- Azure's Global Coverage and Scale:



- A list of Data centre regions:

<b>Europe</b>	<ul style="list-style-type: none"> <li>• North Europe – Dublin, Ireland</li> <li>• West Europe – Amsterdam, Netherlands</li> </ul>
<b>UK</b>	<ul style="list-style-type: none"> <li>• 2 Regions to be confirmed – GA 2016</li> </ul>
<b>Germany</b>	<ul style="list-style-type: none"> <li>• 2 Regions to be confirmed – GA 2016</li> </ul>
<b>Asia</b>	<ul style="list-style-type: none"> <li>• South East Asia - Singapore</li> <li>• East Asia - Hong Kong</li> </ul>
<b>India</b>	<ul style="list-style-type: none"> <li>• India North</li> <li>• India West</li> <li>• India East</li> </ul>
<b>United States</b>	<ul style="list-style-type: none"> <li>• North Central US – Illinois, Chicago</li> <li>• South Central US – San Antonio, Texas</li> <li>• West US – California</li> <li>• East US - Virginia</li> <li>• East US 2 – Virginia</li> <li>• Central US – Iowa</li> </ul>

	<ul style="list-style-type: none"> <li>• US Gov – Virginia</li> <li>• US Gov - Iowa</li> </ul>
<b>Canada</b>	<ul style="list-style-type: none"> <li>• <b>Toronto - (Opening in 2015)</b></li> <li>• <b>Quebec City - (Opening in 2015)</b></li> </ul>
<b>Japan</b>	<ul style="list-style-type: none"> <li>• Japan East - Saitama</li> <li>• Japan West - Osaka</li> </ul>
<b>China</b>	<ul style="list-style-type: none"> <li>• China North – Beijing (21Vianet) - REQUIRES Local enrolment</li> <li>• China South – Shanghai (21Vianet) - REQUIRES Local enrolment</li> </ul>
<b>Oceania</b>	<ul style="list-style-type: none"> <li>• Australia East, Sydney - REQUIRES Local enrolment</li> <li>• Melbourne, Victoria - REQUIRES Local enrolment</li> </ul>
<b>South America</b>	<ul style="list-style-type: none"> <li>• Brazil South – San Paulo</li> </ul>

## WHAT ARE THE CORE SERVICES ON AZURE?

- On Average we are introducing a new feature on Azure every 36 hours. Here is a summary of the current services we provide:
  - [List of Services](#)
  - [Azure Services Infographic](#)

<b>Compute</b>		<a href="#">Virtual Machines (IaaS)</a> – provision Windows and Linux VMs
		<a href="#">Cloud Services (PaaS)</a> – create highly available, infinite scalable cloud applications and APIs
		<a href="#">Batch</a> – Run large-scale parallel and batch compute jobs
		<a href="#">RemoteApp</a> – Deploy Windows client apps in the cloud, run on any device
<b>Web &amp; Mobile</b>		<a href="#">App Service</a> – Create web and mobile apps for any platform
		<a href="#">Web Apps</a> - Create and deploy mission critical Web Apps that scale with your business
		<a href="#">Mobile Apps</a> - Build engaging iOS, Android, and Windows apps
		<a href="#">Logic Apps</a> - Logic apps enable you to develop and deliver powerful integration solutions with ease
		<a href="#">BizTalk Connectors</a> - API Apps and Logic Apps will come bundled with an extensive set of BizTalk connectors allowing access to many enterprise on-premises and SaaS solutions.
		<a href="#">API Apps</a> - Expose your application to 50+ popular SaaS APIs and share your API in your organization
		<a href="#">API Management</a> - Publish APIs to developers, partners and employees securely and at scale

		<a href="#">Notification Hubs</a> - easily route cross-platform, personalized push notification messages to millions of users simultaneously, and scale automatically without needing to rearchitect your app
		<a href="#">Mobile Engagement</a> – Drive app performance through real-time, data-driven user engagement and in-app messaging/notifications.
<b>Data &amp; Storage</b>		<a href="#">SQL Database</a> - For applications that need a full featured relational database-as-a-service
		<a href="#">DocumentDB</a> – fully managed NoSQL document database that offers query and transactions over schema free data
		<a href="#">Azure Redis Cache</a> - this gives you access to a secure, dedicated cache for your Azure applications
		<a href="#">Storage</a> – Blob or Table Storage - store large amounts of unstructured text/binary data such as video/image & audio.
		<a href="#">StorSimple</a> - A unique hybrid cloud storage solution that lowers costs and improves data protection
		<a href="#">Azure Search</a> – “Search as a Service” for web and mobile applications without the typical complexities of full-text search
<b>Analytics</b>		<a href="#">HDInsight</a> - Microsoft’s Hadoop-based service for gaining insight from any data, size or location
		<a href="#">Machine Learning</a> – Powerful cloud-based predictive analytics
		<a href="#">Stream Analytics</a> – Real-time stream processing in the cloud
		<a href="#">Data Factory</a> – orchestrate and manage data transformation and movement
		<a href="#">Event Hubs</a> – Ingest, persist, and process millions of events/telemetry per second from websites, apps and devices
		<a href="#">SQL Data Warehouse</a> - An elastic data warehouse-as-a-service with enterprise-class features
<b>Internet of Things</b>		<a href="#">Event Hubs</a> – Ingest, persist, and process millions of events/telemetry per second from websites, apps and devices
		<a href="#">Stream Analytics</a> – Real-time stream processing in the cloud
		<a href="#">Machine Learning</a> – Powerful cloud-based predictive analytics
		<a href="#">Notification Hubs</a> – Send push notifications to any platform, from any backend
<b>Networking</b>		<a href="#">Virtual Networks</a> – provision private networks (a logically isolated section in Azure) and securely connect it to your on-premises resources

		<a href="#">ExpressRoute</a> – Experience fast, dedicated, private connections
		<a href="#">Traffic Manager</a> - Traffic Manager allows you to load balance incoming traffic across multiple hosted Microsoft Azure services
		<a href="#">Load Balancer</a> - Deliver high availability and network performance to your applications
		<a href="#">DNS</a> - Host your domain in Azure for outstanding performance and availability
<b>Media &amp; CDN</b>		<a href="#">VPN Gateway</a> – Connecting your infrastructure to the cloud
		<a href="#">Media Services</a> - Create end-to-end media workflows with flexible and highly scalable encoding, packaging, and distribution services
		<a href="#">Encoding</a> - Studio-grade encoding at cloud scale
		<a href="#">Azure Media Player</a> - A single player for all your playback needs
		<a href="#">Media Intelligence</a> - Make your multimedia more discoverable and accessible
		<a href="#">Content Protection</a> - Deliver content securely using AES encryption or Microsoft PlayReady DRM
<b>Hybrid Integration</b>		<a href="#">Live and On-Demand Streaming</a> - Deliver content to virtually any device at scale
		<a href="#">CDN</a> - delivering content to end-users through a robust network of global data centres
		<a href="#">BizTalk Services</a> - integrate the Enterprise and the Cloud
		<a href="#">Service Bus</a> - provides the messaging channel for connecting your cloud apps to your on-premises apps
		<a href="#">Backup</a> - Automated server backups – stored securely in the cloud
		<a href="#">Site Recovery</a> – Orchestrate the protection and recovery of your applications for simplified disaster recovery
<b>Identity &amp; Access Management</b>		<a href="#">Active Directory</a> - Secure, enterprise ready identity and access management for the cloud. Synchronise on-premise directories and enable single sign-on
		<a href="#">Multi-Factor Authentication</a> - safeguards data/application access while addressing demand for a simple sign-in process
<b>Developer Services</b>		<a href="#">Visual Studio Online</a> - Host code, plan and track projects, and collaborate with team members to ship better software
		<a href="#">Application Insights</a> - Detect issues, solve problems and continuously improve your web applications
<b>Management</b>		<a href="#">Scheduler</a> - invoke & schedule actions/jobs - such as calling HTTP/S endpoints or posting a message to storage queues
		<a href="#">Automation</a> – automate the manual, long-running, error-prone, and frequently repeated tasks that are commonly performed in a cloud environment. (From the System centre team)

		<b>Autoscale</b> - configure applications to automatically scale up or down to accommodate current demand, and use auto-scaling rules to minimize costs. ( <a href="#">Virtual Machines</a> , <a href="#">Cloud Services</a> , <a href="#">Web Sites</a> , and Mobile Services).
		<a href="#">Azure Resource Manager</a> enables you to combine application resources as a group for deployment/update/deletion in a single, coordinated operation (you can view usage & billing by group)
		<b>Operational Insights</b> - an operations management and intelligence service that integrates across System Center with the power of Azure and HDInsight to analyze machine data across environments, enabling actionable insights and better decisions
		<b>Key Vault</b> - Safeguard cryptographic keys and other secrets used by cloud apps and services
<b>Azure Portal</b>		<a href="#">Preview Portal</a> - Build, manage, and monitor everything from simple web apps to complex cloud applications in a single, unified console
		<a href="#">Microsoft Azure Marketplace</a> - Search and deploy thousands of solutions to simplify the development and management of applications on Azure.

#### AZURE CLOUD DEPLOYMENT OPTIONS

- Microsoft provides you with a choice of deployments....PaaS (more managed), IaaS (less managed), and Hybrid deployments. These are discussed in detail in section 4.
- The Direction is to provide more "service based" offerings than raw compute
- In Summary:

	<b>On Premise</b>	<b>Infrastructure (as a Service)</b>	<b>Platform (as a Service)</b>
<b>YOU</b> scale, make resilient and manage	<b>Applications</b>	<b>YOU</b> scale, make resilient, & manage	<b>Applications</b>
	<b>Data</b>		<b>Data</b>
	<b>Runtime</b>		<b>Runtime</b>
	<b>Middleware</b>		<b>Middleware</b>
	<b>O/S</b>		<b>O/S</b>
	<b>Virtualization</b>		<b>Virtualization</b>
	<b>Servers</b>		<b>Servers</b>
	<b>Storage</b>		<b>Storage</b>
	<b>Networking</b>		<b>Networking</b>
<b>MICROSOFT</b> Managed by vendor		<b>MICROSOFT</b> Scale, resilience and management by vendor	<b>Runtime</b>
			<b>Middleware</b>
			<b>O/S</b>
			<b>Virtualization</b>
			<b>Servers</b>
			<b>Storage</b>
			<b>Networking</b>

#### AZURE IS OPEN

- Microsoft Azure enables you to use any language, framework, or tool to build applications. Features and services are exposed using open REST protocols.
- There is some great information here:
  - <http://azure.microsoft.com/en-us/documentation/articles/virtual-machines-linux-opensource/>

**MS Integrated**      **Ecosystem Provided**

<b>Languages, Dev Tools &amp; App Containers</b>	Docker, Visual Studio Online, .net, php, python, node.js, Java, Azul	Ruby, Jenkins, BYO
<b>CMS &amp; Apps</b>	WordPress, Drupal, Joomla!	Dozens of .net, PHP CMS and web applications
<b>Devices</b>	Android, Windows, Apple,	Xamarin, Apache Cordova
<b>Databases</b>	SQL Server, Hadoop, Redis	ClearDB, MySQL, MongoDB, DocDB, DataStax
<b>Management</b>	Chef, Puppet	Ansible, Saltstack
<b>Operating Systems</b>	Windows, Linux, Ubuntu, SUSE, OpenSUSE, OpenLogic, CentOS-based, Oracle Linux, CoreOS	VMDepot, FreeBSD, byo

#### AZURE ROADMAP

- To Keep up to date on our services & roadmap:
  - Read the [Microsoft Azure Blog](#)
  - Review the Public [Cloud Platform Roadmap](#)
  - An NDA roadmap is available via your Azure Account Manager
  - Sign up for the [Microsoft Azure Newsletter](#)
  - Read the [Scott Guthrie's Blog](#)
  - Read the [Cloud & Enterprise Blog](#)
  - Stay intouch with ALL [Azure service updates](#)
  - Provide direct feedback for new features @ [Windows Azure feedback](#)
  - Request to be part of the [Microsoft Azure Advisory Council](#)

#### AZURE PREVIEW SERVICES

- All Preview Services are listed here: <http://azure.microsoft.com/en-us/services/preview/>
- As we are operating at "cloud speed", we are shipping features at difference cadence to traditional Software. Updates are daily, with agile improvements, and immediate and continuous customer feedback. Here is the phases of Preview services:

<b>Private Preview</b>	<ul style="list-style-type: none"> <li>• A closed group of customers and partners nominated by Microsoft teams to work with the latest features</li> <li>• Suitable for customers who can deploy rapidly, regularly, and can provide bi-directional feedback</li> <li>• There is No SLA and No formal support</li> </ul>
<b>Public Preview</b>	<ul style="list-style-type: none"> <li>• All Public Preview Services are listed <a href="#">here</a>. Please see <a href="#">Preview Feature Supplemental terms</a> before signing up to a service.</li> <li>• Services are usually offered at a discounted cost, as they are still in a state of development, and carry NO SLA or support other than forums.</li> <li>• Previews may be subject to reduced or different security, compliance and privacy commitments, as further explained in the Privacy Statement, Trust Center, and any additional notices.</li> <li>• We may change or discontinue Previews at any time without notice. We also may choose not to release a Preview into GA</li> </ul>

**General  
Availability (GA)**

- Fully Supported, Full SLA, and Full pricing

## 2. Getting Started with Microsoft Azure

**FREE Trial of Microsoft Azure (1 month credit £130/\$200)**

- [http://aka.ms/azure\\_trial](http://aka.ms/azure_trial)

**FREE 1 hour Trial of Azure App Services:**

- <https://trywebsites.azurewebsites.net/?language=cs>

Or use your **FREE allowance from:** MPN, MSDN or BizSpark

**Key portals for Getting started on Microsoft Azure:**

<b>Account Centre</b>	Track your usage & manage your subscription – click on "Account" section.	<a href="https://account.windowsazure.com/">https://account.windowsazure.com/</a>
<b>Management Portal</b>	Use the management portal to configure and control (deploy and host) your Microsoft Azure services and applications - click the "Manage" button	<a href="https://manage.windowsazure.com/">https://manage.windowsazure.com/</a>
<b>Documentation Centre</b>	Documentation to support Build solutions with any language or development platform, OR Target any browser, client or Device, OR Run on Windows or Linux.	<a href="http://www.windowsazure.com/en-us/documentation/">http://www.windowsazure.com/en-us/documentation/</a>
<b>EA Portal (Azure Enterprise customers only)</b>	To view and create your enterprise level accounts, subscriptions, pricing, monetary commitment and overage balances	<a href="https://ea.windowsazure.com/">https://ea.windowsazure.com/</a>

### Getting Started – A walk through

- There is a nice simple video walkthrough here (ignore the discussion around the Prime challenge – this was a recent research experiment we were running):
    - [Signing Up](#)
    - <http://azure.microsoft.com/en-us/get-started/>
1. Go to the **Microsoft Azure Free Trial** page and click on [Try it now:](#)
    - <http://www.windowsazure.com/en-us/pricing/free-trial/>
  2. Sign in with your **Microsoft Account** (Outlook.com, MSN, Hotmail, Live.com)
    - *If you don't have a Microsoft Account you can sign up for a NEW Account [here](#)*
  3. This will provide you access to the **Microsoft Azure Account centre:**
    - *This is where you can Track your usage & manage your subscription*
    - If this is the first time you have accessed the Account Centre, you will need to complete some basic information, credit card information and verify your account (you will be sent a mobile text message code),
    - You can add further subscriptions here, e.g. A Credit card based one

4. Click on "Portal" to enter the **Microsoft Azure management portal**
  - *Use the management portal to configure and control (deploy and host) your Microsoft Azure services and applications*
  - At the top of the page it will show your Azure FREE Credit status
  - If you click on your Account name at the top right hand side you can "View your bill"
  - If you click on any of the Azure services on the Left hand side, you can create, configure, and deploy of each individual service (Name, Size, Deployment location, Deployment options).
  - If you are creating a new VM ([See Guidance here](#)) you have a couple of options, you can:
    - create your own image,
    - browse [VM Depot](#)
    - Select one from the VM Gallery.
  - You will need to create a storage account first to store the VM Image (you will also need to register your own VM image so that it appears in your portal under "My Images").
  - Each Cloud service will be given a service URL or DNS Name "xxxxxxxx.cloudapp.net"

### 5. **Managing Accounts, Subscriptions and Admin roles**

- Some basic principles:
  - <http://msdn.microsoft.com/library/azure/hh531793.aspx>
  - **Microsoft Azure account** - determines how Microsoft Azure usage is reported and who the Account Administrator is
  - **Subscriptions** - help you organise access to cloud service resources (reporting, bills, payments), and each subscription can have different billing and payment setup
  - **Account administrator** - (1 per Account) is the person who created the account, and they have access to all subscriptions. Authorized to access the Account Center (create subscriptions, cancel subscriptions, change billing for a subscription, change Service Administrator, and more)
  - **Service administrator** - (1 per subscription) can perform all functions within a subscription including add/remove Co-Administrators. By default the Service Administrator will be the same as the Account Owner. Authorized to access Azure Management Portal for all subscriptions in the account. By default, same as the Account Administrator when a subscription is created.
  - **Co-administrator** - (200 per subscription) –can perform all functions within a subscription except change the Service Administrator and add/remove other co-administrators. Same as Service Administrator, but can't change the association of subscriptions to Azure directories.
  - Real world worth a [read](#)
- **Azure Role Based Access Control:**
  - We've added support for role-based access control (RBAC) in the Microsoft Azure portal to help organizations meet their access management requirements simply and precisely.
  - Introduction to [RBAC](#)

### 6. **Understanding your usage, billing and Notifications:**

- **Review you Invoice (for PAYG):**
  - Login in to <https://account.windowsazure.com> using your Live ID.
  - Click on the "Account" tab.
  - Click on the "Subscriptions" tab.

- Select the subscription for which you want to download the invoice.
- Click on "Billing History".
- Here you will find the invoices based on the billing cycle.
- **Change from "Credit Card" to "Pay by Invoice" (for PAYG)**
  - <http://www.windowsazure.com/en-us/pricing/invoicing/>
- **Understanding your Bill (for PAYG):**
  - Guidance to help you View your bill, understand your balance, understand charges and download usage
    - <https://azure.microsoft.com/en-gb/documentation/articles/billing-understand-your-bill/>
    - <http://azure.microsoft.com/en-us/pricing/faq/virtual-machines-how-do-instance-sizes-get-billed/>
- **Setting up Billing Notifications (for PAYG):**
  - Login to the following website using account administrator's credentials
  - <https://account.windowsazure.com>
  - Click the "Profile" tab.
  - Click "Edit details."
  - Enter the new email ID under the "Email" field.
  - Click "next" to save the changes
- **Where do I find my Usage data on the Azure PAYG Service:**
  - Go to <https://account.windowsazure.com/Subscriptions/>
  - Sign in with your Microsoft Account (Live ID)
  - Under the "Subscriptions" menu screen, select "download usage detail" on the right hand side menu
  - Click on "Download Usage" for the period you would like to review
  - Details on the field definitions can be found at:
    - <https://azure.microsoft.com/en-gb/documentation/articles/billing-understand-your-bill/>

### 3. Initial Education, Training & Assistance

#### Azure Events

- [Free Cloud Training](#) – Azure webinars
- [MSDN Events](#) – MSDN Events schedule
- [UK Developer Technical Communities](#) – Events run by the developer community
- [Microsoft Azure User Group](#) – The UK Microsoft Azure user Group
- [WW Azure Developer Camps](#) – Worldwide Azure Developer Camps listing
- [Microsoft Events Schedule](#) - Microsoft Events schedule

#### Online Azure Education

- [Microsoft Azure Training Kit](#) - technical content to help you learn how to use Microsoft Azure.
- [Microsoft Virtual Academy](#) – Free online training on Microsoft Azure
- [Microsoft Azure on Channel 9](#) – Channel 9 video content targeting Azure
- [Microsoft Azure "You Tube" channel](#)

#### General Microsoft technical resources to get you up and running:

- [TechNet Virtual Labs](#) - Virtual environments for testing Microsoft's newest products and technologies
- [MSDN Virtual Labs](#) - quickly evaluate and test Microsoft's newest products and technologies through a series of guided, hands-on labs
- [Partner Technical Services](#) – Advisory Services for Microsoft Partners
- [Microsoft Developer Portal](#) - central place for all developers interested in Microsoft platforms
- Microsoft Exam for Azure: <http://www.microsoft.com/learning/en-us/exam-70-487.aspx>

#### Tailored Microsoft technical resources to get you up and running:

- [Microsoft Technology Centre](#) – Access the latest technology and Microsoft specialists on a 121 basis
- [Architecture Design Session \(ADS\)](#) - We'll provide architectural guidance, consultation on preferred practices, and risk analysis to chief technology officers, architects, and senior members of your development team
- [Proof of Concept \(PoC\)](#) - Our architects work closely with key members of your technical staff to transfer knowledge and prove out customized solutions
- [Microsoft Services Premier Support for Microsoft Azure](#) – For companies who want to build business critical, cost effective, robust applications quickly contact Microsoft Services Premier Support for Microsoft Azure
- [UK Microsoft Azure Circle Partners](#) – Select UK at the bottom partner list section in order to get a list of the approved UK Azure partners that can assist you in building applications and services.

#### Microsoft Partner Advisory Hours

- For Gold and Silver Partners in Microsoft Partner Network, you allocated a set amount of hours to use Partner Advisory hours. This allocation can be used for "How to" consultative type questions associated with the deployment of Microsoft Azure. NB. They cannot assist with trouble shooting a specific implementation. For full details see [here](#).
- Further details:
  - Web: <https://partner.microsoft.com/pts>

- Email: [askpts@microsoft.com](mailto:askpts@microsoft.com)
- Tel: <https://partner.microsoft.com/global/40011365>
- Forum: <https://partner.microsoft.com/global/40014662>

#### Recruitment of Internal Resources:

Programme	General Information	Moving Forward
<b>Microsoft Apprenticeship Scheme</b>	Learn how your business can benefit from high-caliber, subsidized young people on a professionally recognized training course which has been designed for and developed by Microsoft Partners.	<ul style="list-style-type: none"><li>• <a href="#">Programme Page</a></li><li>• Contact Lee Corbett</li></ul>
<b>Microsoft Connections - Graduate Programme</b>	It's not easy to find the right people for the right job, so Microsoft Connections aims to simplify the recruitment process. Every year, Microsoft experiences a dramatic increase in the number of students that apply for our graduate scheme, and unfortunately, there just isn't enough space for everyone. Therefore, we would like to keep these graduates within our Microsoft Partner Network and offer them to our <a href="#">UK Gold partners</a> . These graduates have already passed initial CV screening, online testing and interviews. All you have to do is offer a suitable role or opportunity within your organisation, and let the graduates apply! It's that simple.	<ul style="list-style-type: none"><li>• Contact Lee Corbett for the form</li></ul>
<b>Azure Skills from an Approved MS Specialist</b>	Speak to one of the Azure Circle partners who can assist in building applications and services.	<ul style="list-style-type: none"><li>• <a href="#">UK Microsoft Azure Circle Partners</a> – Select UK at the bottom partner list</li></ul>

# 4. Azure Technical Documentation

## Azure Technical Resources

- [Microsoft Azure Documentation Centre](#)
  - **Azure Services** documentation
  - **Developer centres** for .net, Java, PHP, Python, Ruby, Mobile, Media
  - **Resources** to allow you to build and deploy Azure services
- [Documentation Articles](#) – Quickly find Azure tutorials, whitepapers and how-to articles
- [Microsoft Azure Server Software Support for Azure VMs](#) - the support policy for running Microsoft server software in the Microsoft Azure Virtual Machine environment (infrastructure-as-a-service)
- [Microsoft Azure Training Kit](#) - technical content to help you learn how to use Microsoft Azure
- [Azure Application Architecture](#): - architectural design patterns to help you compose your own custom designs
- [Microsoft Azure Execution Models](#) – IaaS, PaaS or Websites execution models and deciding which model to use
- [Microsoft Azure Infrastructure Services Implementation Guide](#) - planning is key to the success of an IT infrastructure or workload in Azure
- [Microsoft Patterns and Practices](#) – Microsoft Azure Guidance site (Greenfield, Brownfield and Hybrid scenario's)
- [Microsoft Symbols](#) - a set of symbols/icons to visually represent features of and systems that use Microsoft Azure

## Command-line tools

- Manage your Azure services and apps using scripts from the command line.
  - **Powershell** - is Microsoft's task automation and configuration management framework, consisting of a command-line shell and associated scripting language built on .NET Framework.
  - See: [How to Install and configure Powershell](#)
  - **Azure Cross Platform Command Line** (xplat-cli) - provides a set of open source, cross-platform commands for working with the Azure Platform. The xplat-cli provides much of the same functionality found in the Azure Management Portal, such as the ability to manage websites, virtual machines, mobile services, SQL Database and other services provided by the Azure platform.
  - See: [How to install and configure Azure Cross-Platform Command-Line](#)

## Access to Developer Tools, Microsoft Software and Code

- [Azure Download Centre](#) - Get the command-line tools and SDKs
- [Microsoft Azure Script Centre](#) - Microsoft Azure enables you to script and automate virtually everything using Windows PowerShell or the cross platform command line tools, which can be used from Windows, Mac, or Linux
- [MSDN Subscriptions](#) - Subscribers can use Microsoft software to design, develop, test, and demonstrate your apps on as many devices as you need (See section 5 for further details)
- [Microsoft Software Evaluation Centre](#) – Access Software for Evaluation and Trial
- [VM Depot](#) - community-driven catalogue of preconfigured OS's, apps, and development stacks that can easily be deployed on Azure

- [GitHub](#) - collaboration, review, and code management for open source and private development projects
- There are many tools to assess, convert, migrate and move your applications and services to Azure. Some common ones are listed in the Appendix.

## SIZING

- Azure Subscription and Service Limits, Quotas, and Constraints:
  - <http://azure.microsoft.com/en-us/documentation/articles/azure-subscription-service-limits/>
- Here are some common asked sizing requests. For Exceptions, please raise Support ticket

IaaS & PaaS VM Sizing	<a href="#">VM Sizes</a> - Customized Windows and Linux VMs with complete control of the OS. <a href="#">Sizing Here</a>
	<a href="#">Cloud Services</a> - Highly available, scalable n-tier cloud apps with more control of the OS. <a href="#">Sizing Here</a>
	<a href="#">App Services</a> - Scalable Web Apps, Mobile Apps, API Apps, and Logic Apps for any device

## MANAGING YOUR SERVICES

Management Services	<ul style="list-style-type: none"><li>• <a href="http://msdn.microsoft.com/en-us/library/windowsazure/dn306640.aspx">http://msdn.microsoft.com/en-us/library/windowsazure/dn306640.aspx</a></li></ul>
Manage Accounts, Subscriptions and Roles	<ul style="list-style-type: none"><li>• <a href="http://msdn.microsoft.com/en-us/library/windowsazure/hh531793.aspx">http://msdn.microsoft.com/en-us/library/windowsazure/hh531793.aspx</a></li></ul>
Manage Certificates	<ul style="list-style-type: none"><li>• <a href="http://msdn.microsoft.com/en-us/library/windowsazure/gg981929.aspx">http://msdn.microsoft.com/en-us/library/windowsazure/gg981929.aspx</a></li></ul>
Azure Role Based Access Control	<ul style="list-style-type: none"><li>• <a href="#">Role-Based Access Control (RBAC)</a> enables fine-grained control over who can manage what on every Azure service. Accessible on the <a href="#">Azure Preview portal</a>, RBAC makes it possible to grant explicit management/access rights to users and groups on subscription or service levels. RBAC is provided at no additional cost to all Azure subscribers.</li></ul>

## VIRTUAL MACHINES & CLOUD SERVICES – Selecting the Right VM

### Azure Deployments defined:

- Microsoft Azure Deployment options – [Azure Fundamentals](#)
- Azure Compute Options
  - [VM Sizes](#) - Customized Windows and Linux VMs with complete control of the OS. [Sizing Here](#)
  - [Cloud Services](#) - Highly available, scalable n-tier cloud apps with more control of the OS. [Sizing Here](#)
  - [App Services](#) - Scalable Web Apps, Mobile Apps, API Apps, and Logic Apps for any device
- A comparison of [Azure App Services, Cloud Services and Virtual Machines comparison](#)

- Here is a walk through of the options for PaaS and IaaS:

## 1. DEPLOYMENT OPTIONS

	<b>Cloud Services (PaaS)</b>	<b>Virtual Machines (IaaS)</b>
<b>Overview</b>	<ul style="list-style-type: none"> <li>PaaS is a prebuilt runtime set of services (It's as if the environment already exists)</li> <li>You don't see VM's, and your Application package contains all the application artefacts – code, schema, data etc.</li> <li>All you have to do is build or deploy your application and components.</li> <li>The PaaS services and the fabric controller bootstraps a VM, installs the code, starts up the VM, Load balances multiple instances and manages all OS patching and instance resilience, scale and lifecycle</li> <li>PaaS requires applications to be stateless (as nothing kept in memory)</li> <li>There are two types of PaaS Cloud services / VMs. <ul style="list-style-type: none"> <li><b>Web roles</b> - are Windows VMs with IIS enabled.</li> <li><b>Worker roles</b> - are Windows VMs with IIS disabled</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>You're responsible for managing much of this world, doing things such as deploying new patched versions of the OS in each VM</li> <li>With IaaS you: <ul style="list-style-type: none"> <li>create / configure the environment your application will run in,</li> <li>then deploy your application into this environment (i.e. you create build a complete Windows Server VM image),</li> <li>then add the Microsoft Azure hooks to it, and push the entire VM into the cloud</li> </ul> </li> <li>Once you instantiate a virtual machine image, you are responsible for patching, configuring and maintaining the operating system and other software within your virtual machine.</li> <li>Planned maintenance on Single VMs, and this is described here: <a href="http://azure.microsoft.com/en-us/documentation/articles/virtual-machines-planned-maintenance/">http://azure.microsoft.com/en-us/documentation/articles/virtual-machines-planned-maintenance/</a></li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>Non-Persistent Storage</li> </ul>	<ul style="list-style-type: none"> <li>Persistent Storage</li> <li>Easily add additional storage</li> </ul>
<b>Deployment</b>	<ul style="list-style-type: none"> <li>Stock VHDs</li> </ul>	<ul style="list-style-type: none"> <li>Build VHD directly in the cloud or build the VHD offsite and upload</li> </ul>
<b>Networking</b>	<ul style="list-style-type: none"> <li>Internal and input endpoints configured through service model</li> </ul>	<ul style="list-style-type: none"> <li>Internal endpoints are open by default. Access control with firewall on guest OS. Input endpoints controlled through portal, service model or API/Script</li> </ul>

<b>Primary</b>	<ul style="list-style-type: none"> <li>Stateless (nothing kept in memory) scale-out applications</li> <li>Stateful Applications (stores data in memory for further use) require persistent storage to easily run in Azure.</li> </ul>
<b>Operating System</b>	<ul style="list-style-type: none"> <li>Windows Server 2012/2008 R2</li> <li>1. Windows Server 2012/2008 R2 <ul style="list-style-type: none"> <li><a href="#">Create a Virtual Machine</a></li> <li><a href="#">Running Linux</a></li> <li><a href="#">Linux Distributions</a> - SUSE, Canonical Ubuntu, Centos (Open Logix), Oracle Linux, OpenSuse</li> </ul> </li> </ul>

## 2. TYPE OF VM/Cloud Services

- General Purpose Compute –**
  - A-Series - Basic Tier** – Does not include load balancer and auto-scaling capabilities. Suited for single instance production applications, development workloads, test servers and batch processing applications that might not require these features.,
  - A-Series – Standard Tier** - Provides an optimal set of compute, memory and IO resources for running a wide array of applications. These instances include both auto-scaling and load balancing capabilities at no additional cost.
- Optimised Compute –**
  - D-series-** virtual machines feature solid state drives (SSDs) and 60% faster processors than the A-series and are also available for web or worker roles in Azure Cloud Services. This series is ideal for applications that demand faster CPUs, better local disk performance, or higher memories.
  - DS-series** - We have a new variant of the D-series sizes called "DS" that are specifically targeted for Premium Storage. The pricing and billing meters for the DS sizes are the same as D-series.
  - G-series VMs** – G-series will provide more memory and more local Solid State Drive (SSD) storage than any current VM size in the public cloud. The largest G-series will offer 448 GB RAM and 6.5 TB of local SSD storage. Alongside this massive memory and local SSD storage, the G-series will also provide unparalleled computational performance
- Network Optimised –**
  - Infiniband support** - Available in select data centers. Adds a 40Gbit/s InfiniBand network with remote direct memory access (RDMA) technology. Ideal for Message Passing Interface (MPI) applications, high-performance clusters, modeling and simulations, video encoding, and other compute or network intensive scenarios.

## 3. SIZE OF VM

- Microsoft Azure Instance Sizing for VM's and Cloud Service sizes:
- <http://msdn.microsoft.com/en-us/library/windowsazure/dn197896.aspx>

## 4. VM IMAGES and SOFTWARE FOR YOUR VM

- Microsoft** - List of what Microsoft Software supported by Microsoft Azure VM:
  - <http://support.microsoft.com/kb/2721672>
- Azure Marketplace / Store Gallery** - find and purchase add-ons to create applications

- <http://azure.microsoft.com/en-us/marketplace/>
- **Virtual Machine Images**
  - You can create a VM in Azure by using one of the following three methods.

<b>Platform Image</b>	<ul style="list-style-type: none"> <li>• You can create your own virtual machine directly in the cloud by using an image that is provided in the Image Gallery of the Windows Azure Management Portal:</li> <li>• To do this, you can use:           <ul style="list-style-type: none"> <li>◦ the Management Portal,</li> <li>◦ PowerShell,</li> <li>◦ the programmable API interface (REST);</li> <li>◦ the command-line tools provided for Mac and Linux desktops.</li> </ul> </li> <li>• After you create the virtual machine, you can log on to the machine to manage it.           <ul style="list-style-type: none"> <li>◦ For a VM that is Windows, you use the Connect button in the Management Portal to start a Remote Desktop Connection.</li> <li>◦ For a VM that is running the Linux OS, you use a Secure Shell (SSH) client to logon.</li> </ul> </li> <li>• We refresh the base images periodically, but Windows Azure does not force updates to the operating system disks already deployed by customers. Similarly, Linux partners will refresh the Linux base images periodically.</li> <li>• For detailed information on how to create, deploy, and manage virtual machines see:           <ul style="list-style-type: none"> <li>◦ <a href="http://azure.microsoft.com/en-us/downloads/">http://azure.microsoft.com/en-us/downloads/</a></li> </ul> </li> <li>• Oracle VM Images for Azure:           <ul style="list-style-type: none"> <li>◦ <a href="http://msdn.microsoft.com/library/azure/dn439770.aspx">http://msdn.microsoft.com/library/azure/dn439770.aspx</a></li> </ul> </li> </ul>
<b>Use your own image</b>	<ul style="list-style-type: none"> <li>• You can use the Add-AzureVHD cmdlet to upload your own VHD file as an image to Windows Azure.</li> <li>• Simply upload your image to your Blob storage account and use that image to instantiate a new virtual machine.</li> <li>• Info on Creating and Uploading a Virtual Hard Disk that Contains the Windows Server Operating System:           <ul style="list-style-type: none"> <li>◦ <a href="http://azure.microsoft.com/en-us/documentation/articles/virtual-machines-create-upload-vhd-windows-server/">http://azure.microsoft.com/en-us/documentation/articles/virtual-machines-create-upload-vhd-windows-server/</a></li> </ul> </li> </ul>
<b>Use your own disk</b>	<ul style="list-style-type: none"> <li>• An OS image is a virtual hard drive file that you can use as a template to create a new virtual machine. An image is a template because it doesn't have specific settings like a configured virtual machine, such as the computer name and user account settings.</li> <li>• You might not be able to use an image because of specific application settings that need to persist. In this case, you can use the Add-AzureVHD cmdlet to upload the VHD file as a disk and then you can create a virtual machine from the disk. For example, your disk may already have SQL Server installed. If you create your own virtual machines and install SQL Server on them, you are responsible for making sure that the appropriate licenses are in place.</li> <li>• <a href="http://msdn.microsoft.com/library/azure/jj672979.aspx">http://msdn.microsoft.com/library/azure/jj672979.aspx</a></li> </ul>

## 5. REDUNDANCY & HIGH AVAILABILITY

- **With PaaS** – we provide all the load balancing and management layer to detect failures and will automatically start a new server in case of an issue
- **With IaaS** – we will triple replicate the disks, such that in the case of a disk failure, Azure uses one of the other disks to allow you to rerun the service. You are responsible for the patching and monitoring of the VM.
- **Affinity Groups** - is a way to tell the Fabric Controller that Azure elements, e.g. Compute and Storage, should always be together or close to one another. The Fabric Controller searches for the best suited Storage Container in the same Cluster, and thus reducing the latency, and increasing the performance. This container will be automatically triple replicated by Azure for Redundancy purposes. Therefore if there is e.g. a hardware fault, Azure detects that the VM is unavailable and kick starts a NEW VM from the replicated image.
- **Single VM Implementations:**
  - No Availability SLA is provided for Single VM implementations. If there is a failure of a Single VM, our monitoring will pick this up, and we will look to restart it or create a copy from the "triple replicated" disk.
  - Additionally we will turn off VMs every so often so we can patch the underlying host machine. So if you have one box, you will have downtime.
- **Multiple VM Implementations:**
  - **Availability Sets in IaaS** - To help ensure the availability of your application, we strongly recommend using multiple virtual machines to provide redundancy (they need to be identical VMs). To do this, configure more than one virtual machine to perform the same function or role. This is deployed across fault domains and update domains and thus ensures your application is not affected by single points of failure e.g. hardware failure or upgrade. The Azure load balancer ensure one VM is not overwhelmed with all of the workload
  - NB. Important to note that we ONLY guarantee the SLA when you deploy two or more role instances in different fault and upgrade domains, your Internet facing roles will have external connectivity at least 99.95% of the time.
  - What: <http://www.windowsazure.com/en-us/documentation/articles/manage-availability-virtual-machines/>
  - How: <http://azure.microsoft.com/en-us/documentation/articles/virtual-machines-how-to-configure-availability/>

## 6. DISKS / STORAGE

- All Azure virtual machines have at least three disks. For more detail about VM Disks in Azure, go to: <https://msdn.microsoft.com/en-us/library/azure/dn790303.aspx>

Disk Type	VHDs	Label	Max Cap.	Description
<b>Operating system Disk</b>	Yes	C drive, SATA drive	127GB	<ul style="list-style-type: none"> <li>• Every VM has a OS disk.</li> <li>• As this is a Virtual Hard drive in an Azure storage account, at least three copies of the disk are created for high durability (OR more for geo-replication)</li> </ul>

				<ul style="list-style-type: none"> <li>For details, see <a href="#">About VHDs in Azure</a></li> </ul>
<b>Temporary Disk</b>	No	D drive	Size of VM determines the disk size (it is the share of the storage on the physical machine)	<ul style="list-style-type: none"> <li>The temporary disk is automatically created for you. On Windows virtual machines</li> <li>On Linux virtual machines, the disk is typically /dev/sdb and is formatted and mounted to /mnt/resource by the Azure Linux Agent.</li> <li><u>Don't store data on the temporary disk.</u> This disk provides temporary storage for applications and processes and is used to store data that you don't need to keep, such as page or swap files</li> <li>If you move host or suffer a hardware failure, you will lose the data</li> </ul>
<b>Data Disks</b>	Yes	Any Letter, SCSI Drive	1 TB per disk (Size of VM determines the number you can attach)	<ul style="list-style-type: none"> <li>A data disk is a VHD that's attached to a VM to store application data, or other data that you need to keep</li> <li><a href="#">How to attach a Data Disk to a VM</a></li> <li><a href="#">Managing Disks and Images</a></li> <li><a href="#">Maximum Number of Data Disks per VM</a></li> <li><a href="#">About VHDs in Azure</a></li> </ul>

	<ul style="list-style-type: none"> <li><b>What is the difference between a Guest OS and a Host OS, and how are they updated?</b></li> </ul>
<b>Guest OS</b>	<ul style="list-style-type: none"> <li>The Guest OS is the operating system that runs on the virtual machines (VMs) that host your services in Azure.</li> <li>The Guest OS is updated periodically. You can allow the Guest OS for your service to update automatically each time a new update is released, or you can manually update it at a time of your choosing.</li> <li>Microsoft recommends you allow the Guest OS to be updated automatically.</li> </ul>
<b>Host OS</b>	<ul style="list-style-type: none"> <li>Azure updates the operating system in the root partition, (sometimes referred to as the host OS), at least every quarter to keep the environment secure for all customer applications running on the platform.</li> <li>The virtualization architecture used by Azure is similar to that of Windows Hyper-V. It includes a root partition that hosts the Azure root partition OS and Azure agent that's responsible for creating child partitions to execute Azure services on the Azure guest OS.</li> <li>Updating the Azure root partition OS and Azure Hypervisor requires that the virtual machines on the server being updated are shut down and subsequently restarted.</li> </ul>

- What is the difference between Azure Load Balancing vs Traffic Manager**
  - Microsoft Azure offers load balancing services for virtual machines (IaaS) and cloud services (PaaS) hosted in the Microsoft Azure cloud. For PaaS, we manage load balancing for you, for IaaS you need to set it up.
  - Load Balancer
  - Overview: <http://msdn.microsoft.com/en-us/library/azure/dn655058.aspx>

What	Overview	When to Use
<b>Azure Load Balancer</b>	<ul style="list-style-type: none"> <li>Load balancing allows your application to scale and provides resiliency to application failures among other benefits.</li> <li><a href="#">Load Balancing a VM</a></li> <li><a href="#">Load Balancing Capability</a></li> </ul>	<ul style="list-style-type: none"> <li>Works only with VMs that are in the same region</li> <li>Only does Round Robin</li> <li>Works at the TCP/UDP level, routing traffic between one or more private endpoints that sit behind a public endpoint</li> </ul>
<b>Azure Traffic Manager</b>	<ul style="list-style-type: none"> <li>Traffic Manager allows you to load balance incoming traffic across multiple hosted Azure services across the world. Ensuring that your users requests always go to the closest server</li> </ul>	<ul style="list-style-type: none"> <li>It can work across regions</li> <li>It offers traffic management policies/Methods: <ul style="list-style-type: none"> <li>Round Robin</li> <li>Failover</li> <li>performance</li> </ul> </li> <li>It works at the DNS level, "routing"** traffic between</li> </ul>

## 7. VM & Cloud Service FAQ's

- What should you NOT run in an Azure VM?**
  - Those which are not supported on Azure (the inverse of the list above)
  - Those whose perf/HA/technical requirements cannot be supported by Azure
  - Those whose single server spec requirements exceed Azure VM sizes
  - Those which need high speed network/IO to resources NOT hosted in Azure
  - Clustered Virtual machines are required
  - Anything earlier than Windows Server 2008 R2
  - 16-Bit and 32-bit operating systems are not supported (but 32 bit process running on a 64bit OS are)
- How do I Autoscale VMs & Cloud Services?**
  - Autoscale** - configure applications to automatically scale up or down to accommodate current demand, and use auto-scaling rules to minimize costs. ([Virtual Machines](#), [Cloud Services](#), [Web Sites](#), and Mobile Services).
  - [http://msdn.microsoft.com/en-us/library/hh680945\(v=pandp.50\).aspx](http://msdn.microsoft.com/en-us/library/hh680945(v=pandp.50).aspx)

	<ul style="list-style-type: none"> <li>By effectively managing traffic, you can ensure high performance, availability and resiliency of your applications.</li> <li>NB. Traffic manager does not actually route traffic, it just serves to the caller the DNS name of the public endpoint where their traffic should go according to the policies in effect</li> <li><a href="#">Traffic Manager Overview</a></li> </ul>	one or more public endpoints that sit behind a common DNS name
--	--	--

	<p><b>NEW Premium Storage Level:</b></p> <ul style="list-style-type: none"> <li><b>Premium Storage</b> is high performance Solid State Drive (SSD) based Storage designed to support I/O intensive workloads with significantly high throughput and low latency. With Premium Storage, you can provision a persistent disk and configure its size and performance characteristics to meet your application requirements. "Page Blobs and Disks" Storage type</li> </ul>
<b>SQL Database "Database as a Service"</b>	<ul style="list-style-type: none"> <li>SQL Database is a relational database-as-a-service offering. It supports existing SQL Server libraries and APIs, allowing you to reuse code and scripts (but without the need to manage virtual machines or infrastructure). It includes:           <ul style="list-style-type: none"> <li><b>Predictable performance</b> guarantees (99.9% SLA).</li> <li>Built-in backup support, with <b>point-in-time data restore</b></li> <li><b>Automatically replicate</b> to another Azure region of your choice (a disaster recovery policy designed for your needs).</li> <li><b>Auditing:</b> The new auditing feature tracks and logs all events that occur on your database, such as updates and queries against data. Dashboard views and reports provide at-a-glance insight into database events. Gain knowledge about what is happening in your database, and identify trends, discrepancies and anomalies.</li> <li><b>Replication</b> - Any data in the databases is triple replicated within the Data centre in order to provide a reliable service. <a href="#">More info</a></li> </ul> </li> <li><b>SQL Database Service Tiers:</b> <ul style="list-style-type: none"> <li><b>Basic</b> - for light transactional workloads</li> <li><b>Standard</b> - for transactional workloads</li> <li><b>Premium</b> - for mission-critical databases</li> <li>Move up and down Database tiers up to 4 x a day in real time</li> </ul> </li> <li><b>Database Throughput Unit (DTU)</b> <ul style="list-style-type: none"> <li>As part of providing a more predictable performance experience for customers, we are DTU. A DTU represents the power of the database engine as a blended measure of CPU, memory, and read and write rates.</li> <li>This measure helps a customer assess the relative power of the six SQL Database performance levels available across Basic, Standard and Premium (Basic, S1, S2, P1, P2, and P3).</li> <li>Please visit sizing Guide: <a href="https://azure.microsoft.com/en-gb/documentation/articles/sql-database-service-tiers/?rnd=1">https://azure.microsoft.com/en-gb/documentation/articles/sql-database-service-tiers/?rnd=1</a></li> </ul> </li> </ul>

	<b>Basic</b>	<b>Standard</b>	<b>Premium</b>
<b>DB Limit</b>	2 GB	250 GB	500 GB

## STORAGE & DATABASES

- Microsoft Azure offers multiple data management services to help manage your data in the cloud.

<b>Storage "Storage as a Service"</b>	<p><b>Four Types of Storage:</b></p> <ul style="list-style-type: none"> <li><b>Blob</b> - For streaming and storing documents, videos, pictures, backups, and other unstructured text or binary data,</li> <li><b>File</b> - Share files between applications running in your virtual machines using familiar Windows APIs or file REST API. Azure Files creates a shared file system using the SMB 2.1 protocol.</li> <li><b>Page Blobs &amp; Disks</b> - Optimized for random read and write operations, page blobs are ideal for VHD images</li> <li><b>Tables &amp; Queues - Tables</b> offer NoSQL storage for unstructured and semi-structured data—ideal for web applications, address books, and other user data. <b>Queues</b> provide a reliable messaging solution for your apps</li> </ul> <p><b>Four Redundancy Options:</b></p> <ul style="list-style-type: none"> <li><b>Locally redundant storage (LRS):</b> we maintain 3 replicas of data within a single sub-region to provide high durability.</li> <li><b>Zone Redundant Storage (ZRS):</b> we store an equivalent of three replicas of data across 2 to 3 facilities within a single region or across regions for higher durability. ZRS capability is only available for Block Blob Storage type currently.</li> <li><b>Geographically redundant storage (GRS):</b> we provide additional data durability by replicating between two sub-regions. In both sub-regions, we maintain 3 replicas of data.</li> <li><b>Read-Access Geo Redundant Storage (RA-GRS)</b> provides read access of your secondary storage replica, when the storage account on the primary location is unavailable</li> </ul> <p><b>Scalability and performance targets:</b></p> <ul style="list-style-type: none"> <li><a href="http://msdn.microsoft.com/en-us/library/windowsazure/dn249410.aspx">http://msdn.microsoft.com/en-us/library/windowsazure/dn249410.aspx</a></li> </ul>
---	--

	<b>Point in Time Restore</b>	Any point within 7 Days	Any point within 14 Days	Any point within 35 Days
	<b>Disaster Recovery</b>	Geo-restore to any region	Standard Geo-replication, offline secondary	Active Geo-replication, up to 4 online (Readable) secondaries
	<b>DB Throughput Units</b>	5	Up to 100	Up to 800
	<b>Performance Objectives</b>	Transaction rate per hour	Transaction rate per Minute	Transaction rate per Second

<b>SQL Server on a Virtual Machine</b>	<ul style="list-style-type: none"> <li>For applications that need full SQL Server functionality, Virtual Machines is an ideal solution. You will find SQL Server 2012 and SQL Server 2008 R2 images offered, including standard, web and enterprise editions.</li> <li><i>You will need to manage OS, middleware, Runtime</i></li> <li><i>More Info:</i> <ul style="list-style-type: none"> <li><a href="http://msdn.microsoft.com/en-us/library/windowsazure/jj823132.aspx">http://msdn.microsoft.com/en-us/library/windowsazure/jj823132.aspx</a></li> </ul> </li> </ul>
--	--

## IDENTITY AND ACCESS

- Identity management, provisioning, role management, and authentication are key services both on-premises and through the (hybrid) cloud. Unsurprisingly, identity becomes a service where identity “bridges” in the cloud talk to on-premises directories or the directories themselves move and/or are located in the cloud:
- <http://www.microsoft.com/en-us/download/details.aspx?id=36391>

<b>Microsoft Azure AD Access Control</b>	Microsoft Azure AD Access Control (also known as Access Control Service or ACS) enables centralized authentication and authorization for your cloud application by working with standards-based identity providers, including Windows Server Active Directory as well as consumer web identities such as Microsoft Account, Google, Yahoo!, and Facebook. This is FREE. <ul style="list-style-type: none"> <li><a href="#">How to use Access Control</a></li> <li><a href="#">Understanding Microsoft Azure Access control and Integration with Microsoft Azure Active Directory</a></li> </ul>
<b>Microsoft Azure Active Directory</b>	Azure Active Directory is a service that provides comprehensive identity and access management capabilities in the cloud. It combines directory services, advanced identity governance, application access management and a rich standards-based platform for developers. Three levels ( <a href="#">Detailed Comparison of Versions here</a> ):

	<ol style="list-style-type: none"> <li><b>FREE AAD</b> - you can manage user accounts, synchronize with on-premises directories, get single sign on across Azure, Office 365, and thousands of popular SaaS applications like Salesforce, Workday, Concur, DocuSign, Google Apps, Box, ServiceNow, Dropbox, etc.</li> <li><b>BASIC AAD</b> - provides application access and self-service identity management requirements for task workers with cloud-first needs. You get all the capabilities that AAD Free has to offer, plus group-based access management, self-service password reset for cloud applications, Azure Active Directory application proxy (to publish on-premises web applications using Azure Active Directory), customizable environment for launching enterprise and consumer cloud applications, and an enterprise-level SLA of 99.9 percent uptime.</li> <li><b>PREMIUM AAD</b> - you get all of the capabilities that the AAD Basic editions have to offer, plus additional feature-rich enterprise-level identity management capabilities explained below.</li> </ol>
<b>Azure Active Directory Sync</b>	<ul style="list-style-type: none"> <li>Microsoft Azure Active Directory Sync Services - Azure AD Sync allows you to onboard to Azure Active Directory and Office 365 with a single forest or multi forest on-prem Active Directory.</li> <li><a href="http://www.microsoft.com/en-us/download/details.aspx?id=44225">http://www.microsoft.com/en-us/download/details.aspx?id=44225</a></li> <li><a href="http://msdn.microsoft.com/en-us/library/azure/dn790204.aspx">http://msdn.microsoft.com/en-us/library/azure/dn790204.aspx</a></li> </ul>
<b>Azure Multi-Factor Authentication</b>	<p>Provides an extra layer of authentication, in addition to a user's account credentials, to secure employee, customer, and partner access. It can be used for both on-premises &amp; cloud apps</p> <ul style="list-style-type: none"> <li><a href="#">Overview</a></li> </ul>

## CONNECTIVITY

### Connectivity Scenarios for existing Infrastructure and Networks

<b>“PUBLIC” Internet Connection to Microsoft Azure</b>			
<b>Scenario 1: IPSec VPN over internet</b>	<a href="#">Microsoft Azure Virtual Network</a>	<b>What is it?</b>	<b>Things to be aware of:</b>
		Customer uses encrypted link over public internet to interact with Azure. This could be: <ul style="list-style-type: none"> <li>Secure Point to site connectivity</li> <li>Secure Site-to-site VPN Connectivity</li> <li>Multiple Site to Site</li> <li>VNET to VNET connectivity</li> </ul>	<ul style="list-style-type: none"> <li>Greater networking costs and latency since data is hair pinned through a customer data center</li> <li>Data travels over the open Internet to connect to cloud</li> <li>Bandwidth is limited</li> </ul>
<b>ExpressRoute – “PRIVATE”, dedicated, high-throughput network connection</b>			

<b>Scenario 2:</b> <b>Carrier provided WAN</b>	<a href="#">Private Connectivity to Azure</a>	<p><b>What is it?</b></p> <ul style="list-style-type: none"> <li>• Connection from a WAN provided by Network Service Provider</li> <li>• Azure becomes another site on the customer's WAN network.</li> <li>• The routing is managed by the network service provider</li> <li>• The service provider will provide redundant connectivity for High Availability</li> <li>• e.g. AT&amp;T, Level 3, Verizon, BT, SingTel</li> </ul>	<p><b>Things to be aware of:</b></p> <ul style="list-style-type: none"> <li>• Avoids risks from exposure to Internet</li> <li>• Avoids complexity and added costs</li> <li>• Provides lower latency, higher bandwidth and greater availability</li> <li>• <b>Full Technical details, Options and Availability:</b></li> <li>• <a href="https://azure.microsoft.com/en-us/documentation/articles/expressroute-introduction/">https://azure.microsoft.com/en-us/documentation/articles/expressroute-introduction/</a></li> </ul>
<b>Scenario 3:</b> <b>Meet Azure at peering exchange location</b>	<a href="#">Private Site to Site Connectivity to Azure</a>	<p>Customer connects/Peers to Azure at ExpressRoute Exchange Provider</p> <ul style="list-style-type: none"> <li>• The routing is managed by the customer</li> <li>• The customer must establish a pair of cross connects through the exchange provider</li> <li>• e.g. Equinix, Level 3, Telecity Group</li> </ul>	

FEATURE	What can you use / do:
<b>STORAGE Geo-Redundancy</b>	<ul style="list-style-type: none"> <li>• <b>Locally redundant storage (LRS):</b> we maintain multiple replicas of data within a single region to provide high durability.</li> <li>• <b>Geographically redundant storage (GRS):</b> we provide additional data durability by asynchronously replicating between two regions hundreds of miles apart within the same geo. In both regions, we maintain multiple replicas of data.</li> <li>• <b>Read-Access Geographically redundant storage (RA-GRS):</b> Customers can use this service to access their data when the storage account in the primary region is unavailable allowing higher read availability over GRS.</li> </ul>
<b>STORAGE Import/Export</b>	<ul style="list-style-type: none"> <li>• <b>Microsoft Azure Import/Export</b> enables you to move large amounts of your data into and out of Windows Azure Blob Storage. Transporting your data from your hard disk drives to Azure is simple and easy. It can be completed by using secure transport to our datacenters and Microsoft's high-speed secure internal network to transfer the data.</li> <li>• <b>Data Recovery</b> – if you want to retrieve large amounts of data stored in Microsoft Azure Blob Storage, you can use Import/Export to transfer the data to a storage device and have it delivered to you at your desired location.</li> </ul>
<b>STORAGE StorSimple – Cloud Integrated Storage</b>	<ul style="list-style-type: none"> <li>• <b>StorSimple</b> cloud-integrated storage provides an on-premises enterprise-grade storage area network (SAN) that integrates seamlessly with Microsoft Azure Blob storage to enable unlimited capacity scaling, significantly lower cost of ownership and automated data protection in the cloud</li> </ul>
<b>VMs Microsoft Azure Backup</b>	<ul style="list-style-type: none"> <li>• <b>Microsoft Azure Backup</b> helps you protect important server data off-site with automated backup to Microsoft Azure. Manage cloud backups from the familiar backup tools in Windows Server, Windows Server Essentials, or System Center Data Protection Manager.</li> </ul>
<b>VMs Microsoft Azure Traffic Manager</b>	<ul style="list-style-type: none"> <li>• <b>Traffic Manager</b> enables you to improve the availability of your critical applications by monitoring your hosted services in Microsoft Azure and providing automatic failover capabilities when a service goes down.</li> </ul>
<b>DATABASE SQL Database</b>	<ul style="list-style-type: none"> <li>• <b>Microsoft Azure SQL Database</b>, formerly SQL Azure, is a fully managed relational database service that includes built-in high availability as there are Two datacenter replicas built-in for every SQL database</li> </ul>

## BUSINESS CONTINUITY, DR and HIGH AVAILABILITY

- Business Continuity plans are really dependent on what capabilities of Microsoft Azure you are using, in what scenario you are using, and what are your RTO (Recovery Time objective) and RPO (Recovery point object)
- Planning for failures and disasters in the Cloud requires you to recognize the failures quickly and implement a strategy that matches your tolerance for the application's downtime. Additionally you have to consider the extent of data loss the application can tolerate without adverse business consequences as it is restored.
- Availability problems can be classified into three broad categories:
  - Failure of individual servers, devices, or network connectivity
  - Corruption, unwanted modification, or deletion of data
  - Widespread loss of facilities
- With the cloud, each decision has a cost implication (e.g. building redundant services running in another datacenter)
- I would encourage looking at our:
  - [Business continuity planning guide](#) walks you through scenarios for specific Azure capabilities
  - [Disaster Recovery and High Availability Resources](#)
- Here are some common features we have been asked about:

## 5. Microsoft Azure for Test & Development

### Why use Microsoft Azure for Test and Development?

- **Microsoft Azure Platform** - enables you to develop and test applications faster, at reduced cost, and with the flexibility to deploy in the cloud or on-premises.
- **MSDN** – Provides you with free monetary credits and software
- **Visual Studio / Visual Studio Online** – A phenomenal integration story

<b>No Charge for stopped VMs</b>	As of June 2013, you no longer need to delete VMs to stop charges. Simply stop the VM, and we preserve the deployment state and configuration, but also stop charging.
<b>Pay by the Minute Billing</b>	We are billing at a per-minute granularity. So if you run a VM (or Cloud Service, or Web Site, or Mobile Service) for only 6 minutes in an hour, we now only charge you for the actual 6 minutes of compute usage
<b>MSDN Use Rights</b>	MSDN dev/test software licenses (e.g. SQL Server, SharePoint, BizTalk, etc) can now be used in Azure.
<b>Heavily Discounted MSDN Dev/Test Rates</b>	There is a new billing rate for customers who have MSDN subscriptions. You can now spin up <u>any number</u> of Windows Server, SQL Server, SharePoint Server, and BizTalk Server VMs for Dev/Test scenarios using Microsoft Azure and get up to 40% off
<b>MSDN Monetary Credits</b>	Every MSDN subscriber gets up to \$150 per month of Azure monetary credits that can be used for Dev/Test purposes.
<b>Portal Support for Tracking MSDN Monetary Credit Usage</b>	Microsoft Azure customers to track their monetary credit usage. The top of the Microsoft Azure Management Portal now includes "Credit Status UI" that enables customers to quickly check their current status

### Popular Scenarios for using Microsoft Azure in Test and Development:

- Development and Test sandbox
- Develop Windows / Linux apps on VM's
- Create repeatable dev and test environments using scripting
- Testing load or scalability
- Accelerate sharepoint development

### MSDN Subscriptions

- [MSDN Subscriptions](#) - Subscribers can use Microsoft software to design, develop, test, and demonstrate your apps on as many devices as you need
  - [What is included in the MSDN Subscription?](#)
    - Access to the Microsoft Software and Visual Studio online (TFS)
    - Access to Technical Support Incidents
    - Access to FREE Microsoft Azure
    - Access to developer accounts for O365, W8, WP8 Store
  - [MSDN Subscription Levels](#)
  - [How to get started with your MSDN Subscription?](#)

- MSDN benefits cannot be pooled under one "uber-subscription" which has all the credits from all the subscriptions pooled
- You can allow anybody you like to be a co-admin of your subscription. But if that's an MSDN subscription with say \$100/month, then they're all going to share it.
- Azure resources can be moved from one subscription to another
- MSDN gives you access to Windows Client OS images which can only be used on an individual Azure subscription for testing purposes.
- MSDN provides lower prices (as they don't include the additional licence, e.g. SQL
- Usage is specifically for dev/test use, there's no SLA, and it's billed via credit card or monthly invoice, etc.
- MSDN Offer: <http://azure.microsoft.com/en-us/offers/ms-azr-0023p/>
- There is a definitive details on Page 16 (Cloud Use rights): [VS and MSDN Licensing Whitepaper](#)

### MSDN Microsoft Azure Monetary Credits

- Every MSDN subscriber gets up to \$150 per month of monetary credits that can be used to run any Microsoft Azure resource for Dev/Test purposes.
  - MSDN Professional Subscribers get \$50/month,
  - MSDN Ultimate Subscribers get \$150/month
- To put this in Perspective, \$100 a month could be used for:
  - 3 x Windows Server VMs for 16 hours a day, every day of the month.
  - 80 x Windows Server VMs (with SQL, SharePoint, etc) to use in a load-test for 20 hours:
  - 50 x Hadoop cluster nodes for 10 hours of a dev/test MapReduce run
  - 100 x web-sites with a SQL Database for dev / test

### Useful Further Information:

- [Getting Started with MSDN and Azure](#)
- [Using your MSDN Subscription to spin up a VM](#)
- Getting Started with Microsoft Azure for Development & Test:
  - <http://www.windowsazure.com/en-us/solutions/dev-test/#getstarted>
- Useful Video's:
  - [Step-by-step: Getting setup on Azure with your MSDN benefits](#)
  - [Getting Started with Microsoft Azure for Development & Test](#)
  - [Deploy Automatically to Azure using Visual Studio Release management](#)
- [Visual Studio](#)
- [Visual Studio Online](#) (Includes five free Basic users and includes shared monthly resources for build and load testing)
- Contact Point: [ukvs@microsoft.com](mailto:ukvs@microsoft.com)
- FYI - MSDN defines Production [here](#) - *A production environment is defined as an environment that is accessed by end users of an application (such as an Internet Web site) and that is used for more than Acceptance Testing of that application or Feedback. Some scenarios that constitute production environments include, 1. Environments that connect to a production database, 2. Environments that support disaster-recovery or backup for a production environment, 3. Environments that are used for production at least some of the time, such a server that is rotated into production during peak periods of activity.*

## 6. Microsoft Azure Pricing

Microsoft Azure operates on a "utility" based pricing mode, in that you consume the services and pay for what you use. It is therefore vital to understand how the components are priced and metered, and how these costs scale in production, as the costs may not scale uniformly.

There are generally 3 areas of Cloud computing costs you need to think about:

- **Compute** – How much compute power are you using? (Per hour)
- **Storage** – How much data you are storing? (GB / month)
- **Bandwidth** – How big are the transactions going through the system? (GB)

To assess the typical usage of your application, we suggest you:

1. **Architecture Walk through** - Walk through the Architecture to understand what components you use and what and how they change with growth in your solution.
2. **Usage Assumption** - Overlay your Assumptions of a Small, Medium and Large Users
3. **Beta Customer Test**- Analyse a Beta customer's usage to test the above hypothesis
4. **Business Growth** – Apply your customer acquisition/business growth projections (High, Medium & Low), and understand how existing customers usage will grow?

For Azure specifics, please review:

- [Pricing Overview](#)
- [Pricing Calculator](#)
- Azure prices are illustrated per hour and based on the assumption of 744 hours a month
- Important to note that regions / geography deployment do impact costs
- Some specific Feature FAQ's:

Programme	Offer
VMs (IaaS)	<ul style="list-style-type: none"><li>When customers shut down their VM (VMs only), the billing meters will stop as well (i.e. you don't need to delete)</li><li>All VM Billing is converted into SMALL instance hours<ul style="list-style-type: none"><li><a href="http://azure.microsoft.com/en-us/pricing/faq/virtual-machines-how-do-instance-sizes-get-billed/">http://azure.microsoft.com/en-us/pricing/faq/virtual-machines-how-do-instance-sizes-get-billed/</a></li></ul></li></ul>
Cloud Services (VMs, Web, Worker Role)	<ul style="list-style-type: none"><li>Some services e.g. VMs, Web &amp; Worker roles, and SQL Server are charged per minute but they are listed as hourly rates. We will bill based on total number of minutes when your VMs run for a partial hour.</li></ul>
SQL Server running in a VM (IaaS)	<ul style="list-style-type: none"><li>The virtual machine instance price does not include any Storage cost associated with the image running in the virtual machines (i.e. the size of the SQL database).</li><li>The SQL Server rates do not include the hourly rates for Windows Server Virtual Machines. The cost of underlying Windows Server VMs will be billed separately</li><li>The local drives should be used for the installation files only. You need to add on the price of Blob Storage (you attach to VMs)</li></ul>
Bandwidth	<ul style="list-style-type: none"><li>Bandwidth or Data transfer pricing is listed in the link below.</li><li>We do not charge for data going into the data centres</li></ul>

- <http://www.windowsazure.com/en-us/pricing/details/data-transfers/>

### AZURE PRICING EXAMPLE:

In this simple example, we are pricing and configuring the costs of running a current OnPremise CRM application in Azure IaaS. Their application is a standard 3-tier application with a Web Front end, an application middle tier, and a Database server (all can be run on a single tier core and 1.75GB RAM). The application assumptions are:

- Number of people accessing the system: 50
- Size of Docs accessed by each user: 100MB per day
- Size of Data Storage: 50GB
- Size of Database: 10GB
- Service Runs: 24x7

### What would the application look like in Azure IaaS, and what would the cost be?

- All costs were calculated using the [Azure calculator](#)
- Assumes Testing proves a Small VM will be sufficient

Cost Element	What is it?	Azure Component	Price per month	Notes
Compute	<b>Web Front End</b>	2 x Windows Server VMs – Small (A1)	£85.23	<ul style="list-style-type: none"><li>To help ensure the availability of your application, we strongly recommend using multiple virtual machines (to perform the same function) to provide redundancy.</li><li>This redundancy is required to receive our SLA for VMs.</li><li>For more information on Availability Sets, see <a href="#">document</a></li></ul>
	<b>Application Tier</b>	2 x Windows Server VMs – Small (A1)	£85.23	
Data / Storage	<b>Database Server (Structured Relational DB)</b>	10 GB Database	£29.25	<p>For Structured Data, Azure offers:</p> <ul style="list-style-type: none"><li>a "SQL Database-as-a-Service" with built in redundancy, triple replication across fault domains to avoid any single component failure, and</li><li>the ability to run SQL Server in a VM (IaaS).</li></ul>
	<b>Storage</b>	50GB of Page Blobs Storage with Global Redundancy	£3.03	

					<p>persistent disks for VMs in Azure.</p> <p>Redundancy Options:</p> <ul style="list-style-type: none"> <li>• <b>Locally redundant storage (LRS)</b>: Triple replicates data within a single sub-region to provide high durability.</li> <li>• <b>Geographically redundant storage (GRS)</b>: replicates LRS between two sub-regions. In both sub-regions, we maintain multiple replicas of data. By default geo redundancy is on</li> </ul>
<b>Network</b>	<b>Outbound Data / Bandwidth</b>	50 Users x 100MB per day x 30 Days = 150GB a Month	£11.08	• We do not charge for data going into Window Azure data centres • <a href="http://www.windowsazure.com/en-us/pricing/details/data-transfers/">http://www.windowsazure.com/en-us/pricing/details/data-transfers/</a>	
<b>Domain</b>	<b>Domain Name Registration</b>	GoDaddy £6.99 p.a.	58p	•	
<b>List Price Total (per month)</b>		<b>£214.4</b>		• Discounts starting from 20% are available from spend above £300/month	

## 7. Microsoft Azure Purchasing Options

### Contracting with Microsoft for Azure:

- As a service provider building solutions on the Microsoft Azure platform, you will be driving Microsoft Azure usage either directly or indirectly.
- There are three aspects you need to think about,
  - Who will contract with Microsoft for the Azure Usage? >> Will you contract directly or will you use your customers Azure Subscription?
  - How much Azure will you be using over the next 12 months? >> How certain are you of this usage?
  - What contracting mechanism will you or your customer use? >> Pay as you Go, Open Distribution, MOSA Commitment or EA Commitment
- There will be implications for either option including Security, Access control, Data privacy, Raising a Support tickets, Control of changes and updates, workload separation, and price transparency
- Your solution costs will change over time, and your understanding of customer use patterns will become increasingly sophisticated. Work with your account team or reseller to understand what the most efficient way to buy Azure.

### Member offers & FREE Trials:

- Before you commit to any purchase model, explore the many free Azure options available: <http://www.windowsazure.com/en-us/pricing/member-offers/>

Programme	Offer	
FREE Trial	<ul style="list-style-type: none"><li>\$200 to use for 1 month</li></ul>	<ul style="list-style-type: none"><li><a href="http://aka.ms/azure_trial">http://aka.ms/azure_trial</a></li></ul>
MSDN	<ul style="list-style-type: none"><li>Professional: \$50 per month of Azure</li><li>Enterprise: \$150 per month of Azure</li></ul>	<ul style="list-style-type: none"><li><a href="#">MSDN Subscription allowance</a></li></ul>
MPN	<ul style="list-style-type: none"><li>Up to \$500 a month</li><li>FYI - to use for your internal applications or internal development and testing</li></ul>	<ul style="list-style-type: none"><li><a href="#">MPN allowance</a></li></ul>
BizSpark	<ul style="list-style-type: none"><li>\$200 in the first month, then \$150 per month</li></ul>	<ul style="list-style-type: none"><li><a href="#">BizSpark allowance</a></li></ul>

### Purchase Options

- <http://azure.microsoft.com/en-us/pricing/purchase-options/>

	Pay As You Go (PAYG)	Open	MOSA Monetary Commitment (DRAFT)	Enterprise Agreement / Server and Cloud Enrolment
What is it?	Azure utility based pricing and contracting model, that is billed monthly in arrears based on your actual usage	<p>Packaged Upfront Monetary commitment model that allows you to buy "Azure Credits" from your local reseller (think Prepayment cards). OR Become a reseller and sell Azure to your customer, and let them manage their own subscription</p>	A direct Azure monetary commitment based model with a 5% discount	Azure Enterprise Upfront monetary commitment model, with discounts and incentives driven by commitment level. Allows you to present your customer with a complete solution for your Application or service
Ideal for Companies	<ul style="list-style-type: none"><li>Billing &lt;\$500 a month</li><li>Taking their first steps on Azure</li></ul>	<ul style="list-style-type: none"><li>Work closely with a Microsoft resellers</li><li>You or your customers want to purchase Azure upfront</li><li>Would like to resell Azure to customers, but not own the subscription</li></ul>	<ul style="list-style-type: none"><li>Single subscription</li><li>Billing more than \$6000 per annum</li><li>Looking for volume discounts based on upfront commitments</li></ul>	<ul style="list-style-type: none"><li>Billing &gt; \$24,000 p.a.</li><li>Need to manage multiple subscriptions on an Enterprise level and need access to the Azure EA portal</li><li>Looking for volume discounts based on upfront commitments</li><li>Would like to present one bill to the customer as part of your SaaS solution</li></ul>
Minimum Monetary Commitment	<ul style="list-style-type: none"><li>Not a commitment model</li></ul>	<ul style="list-style-type: none"><li>Minimum of +\$100 (£61.09) commitment units</li></ul>	<ul style="list-style-type: none"><li>Minimum of &gt;\$6000 for 12 months</li></ul>	<ul style="list-style-type: none"><li>Minimum of \$24,000</li></ul>
Invoicing Frequency	<ul style="list-style-type: none"><li>Monthly (in arrears)</li></ul>	<ul style="list-style-type: none"><li>Billed on sale of Azure Credit SKU</li></ul>	<ul style="list-style-type: none"><li>Prepay 12 months upfront</li></ul>	<ul style="list-style-type: none"><li>Prepay 12 months upfront</li></ul>

<b>Invoice Entity</b>	<ul style="list-style-type: none"> <li>Directly from Microsoft</li> </ul>	<ul style="list-style-type: none"> <li>Direct from Microsoft, but administered via Reseller</li> </ul>	<ul style="list-style-type: none"> <li>Directly from Microsoft</li> </ul>	<ul style="list-style-type: none"> <li>Directly from Microsoft but managed by Microsoft License Solution Provider (LSP)</li> </ul>
<b>Payment Types</b>	<ul style="list-style-type: none"> <li>Credit Card</li> <li>Invoice Payment</li> </ul>	<ul style="list-style-type: none"> <li>Credit Card</li> <li>Invoice Payment</li> </ul>	<ul style="list-style-type: none"> <li>Credit Card</li> <li>Invoice Payment</li> </ul>	<ul style="list-style-type: none"> <li>Invoice Payment</li> </ul>
<b>Time Commitments</b>	<ul style="list-style-type: none"> <li>None</li> </ul>	<ul style="list-style-type: none"> <li>12 month commitment</li> </ul>	<ul style="list-style-type: none"> <li>12 months Commitments</li> </ul>	<ul style="list-style-type: none"> <li>36 Month Commitment and agreement, but with the ability to reduce/increase in Year 2/3</li> </ul>
<b>Pricing &amp; Discounts</b>	<ul style="list-style-type: none"> <li>A number of Azure components have baked in discounts based on Volume</li> </ul>	<ul style="list-style-type: none"> <li>Each Azure credit SKU = \$100 (£61.09)</li> <li>Any discounts on this are to be negotiated with your reseller.</li> </ul>	<ul style="list-style-type: none"> <li>Discount is 5% of RRP</li> <li>If you use more than you commit, the pricing will revert to List Prices</li> <li>Some features are excluded.</li> </ul>	<p>FYI – Microsoft EA pricing commitment is to a price level, and not to a discount percentage</p> <ul style="list-style-type: none"> <li>Level A (Commitment \$24,000) = 3%</li> <li>Level B (Commitment \$199,200) = 6%</li> <li>Level C (Commitment \$499,200) = 9%</li> <li>Level D (Commitment \$1,000,000) = 12%</li> </ul>
<b>Additional Benefits / Incentives</b>	<ul style="list-style-type: none"> <li>No</li> </ul>	<ul style="list-style-type: none"> <li>Subscription usage monitored by reseller</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>	<ul style="list-style-type: none"> <li><b>FREE Deployment Funds</b> – To be spent with MCS or an Azure partner for consultancy related to Azure</li> </ul>
<b>Access to EA Portal</b>	<ul style="list-style-type: none"> <li>No</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>	<ul style="list-style-type: none"> <li>No</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>
<b>Agreement Type</b>	<ul style="list-style-type: none"> <li>Microsoft Online Services Agreement (MOSA) – included in Services Terms</li> <li><a href="#">PAYG Offer details</a></li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Volume Licensing terms - Open, Open Value etc</a></li> <li><a href="#">Open Offer details</a></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Volume Licensing terms – Enterprise agreement and Server and Cloud Enrolment</a></li> <li><a href="#">EA Offer details</a></li> </ul>
<b>Highlighted Terms and Conditions</b>		<ul style="list-style-type: none"> <li>Azure credit expires 12 months from each credit activation date</li> <li>If Azure credit key is not activated within 5 years, credit will expire</li> <li>Reseller &amp; Customer will be notified of balance</li> <li>Service will stop if the account is not topped up in time.</li> <li>Unutilized monetary credit from Open cannot be transferred to EA</li> </ul>	<ul style="list-style-type: none"> <li>If you have an unused commitment balance at the end of the 12 months, you will lose it</li> </ul>	<ul style="list-style-type: none"> <li>Azure monetary commitment is a “use it or lose it” agreement. It must be used within 12 months or you will lose the balance</li> <li>There is more detail in the Appendix</li> </ul>
<b>Support</b>	<ul style="list-style-type: none"> <li>All Support Packages are available for purchase</li> </ul>	<ul style="list-style-type: none"> <li>All Support Packages are available for purchase</li> </ul>	<ul style="list-style-type: none"> <li>All Support Packages are available for purchase</li> </ul>	<ul style="list-style-type: none"> <li>Developer Support excluded from EA/SCE agreement</li> </ul>
<b>Where to sign up</b>	<ul style="list-style-type: none"> <li><a href="http://azure.microsoft.com/en-us/pricing/purchase-options/">http://azure.microsoft.com/en-us/pricing/purchase-options/</a></li> </ul>	<ul style="list-style-type: none"> <li>Contact your local Microsoft reseller or search online: <a href="#">Pinpoint</a></li> </ul>	<ul style="list-style-type: none"> <li><a href="http://azure.microsoft.com/en-us/offers/ms-azr-0026p/">http://azure.microsoft.com/en-us/offers/ms-azr-0026p/</a></li> </ul>	<ul style="list-style-type: none"> <li>Contact your account manager or LSP, or search online for an LSP: <a href="#">Pinpoint</a></li> </ul>

## 8. Azure Terms & Conditions, and Licensing

<b>Microsoft Azure Agreement</b>	Contains the terms and conditions that govern your use of the Microsoft Azure service. It consists of the below terms and conditions, the Acceptable Use Policy, the Services Terms, the SLAs, and the pricing and related terms listed on the Portal for your Subscription <ul style="list-style-type: none"> <li><a href="http://www.windowsazure.com/en-us/support/legal/subscription-agreement/">http://www.windowsazure.com/en-us/support/legal/subscription-agreement/</a></li> </ul>
<b>Service Terms</b>	<ul style="list-style-type: none"> <li>The <a href="#">Service Terms</a> - contains the terms under which we will provide the service to you and outlines the acceptable use terms</li> </ul>
<b>Purchase Terms</b>	<ul style="list-style-type: none"> <li><a href="#">Azure Purchase Terms</a></li> </ul>
<b>Services Level Agreement (SLA)</b>	<ul style="list-style-type: none"> <li>The <a href="#">Service Level Agreements</a> describe commitments around uptime and connectivity for Microsoft Azure</li> <li>For Cloud Services and Virtual Machines, all Internet facing deployments that have two or more instances in the same Availability Set, we guarantee you will have external connectivity at least 99.95% of the time.</li> </ul>
<b>Preview Service Terms of Use</b>	Preview services are not governed by the Microsoft Azure SLA. But by the following terms and conditions: <ul style="list-style-type: none"> <li><a href="http://www.windowsazure.com/en-us/support/legal/preview-terms-of-use/">http://www.windowsazure.com/en-us/support/legal/preview-terms-of-use/</a></li> </ul>
<b>Microsoft Azure Cloud Services Support Lifecycle Policy</b>	The following document describes the lifecycle policy details for the Guest OS provided by Microsoft Azure for Cloud Services. It is typically for 12 months. These policies exclude IaaS <ul style="list-style-type: none"> <li><a href="http://support.microsoft.com/gp/azure-cloud-lifecycle-faq">http://support.microsoft.com/gp/azure-cloud-lifecycle-faq</a></li> <li><a href="http://msdn.microsoft.com/en-us/library/dn750850.aspx">http://msdn.microsoft.com/en-us/library/dn750850.aspx</a></li> </ul> Customers may choose to auto update Cloud OS, see: <a href="http://msdn.microsoft.com/en-us/library/ff729420.aspx">http://msdn.microsoft.com/en-us/library/ff729420.aspx</a>
<b>Privacy Statement</b>	Describes the privacy policy & practices that govern use of Azure. <ul style="list-style-type: none"> <li><a href="http://www.windowsazure.com/en-us/support/legal/privacy-statement/">http://www.windowsazure.com/en-us/support/legal/privacy-statement/</a></li> </ul>
<b>Enterprise Agreement and Volume Licensing</b>	See - <a href="#">Volume Licensing Reference Guide</a> <ul style="list-style-type: none"> <li><a href="http://www.microsoft.com/licensing/how-to-buy/how-to-buy.aspx">http://www.microsoft.com/licensing/how-to-buy/how-to-buy.aspx</a></li> </ul>
<b>Data Processing Agreement</b>	Additional contractual commitments to <u>volume licensing</u> customers: <ul style="list-style-type: none"> <li>A <b>Data Processing Agreement</b> that details our compliance with the E.U. Data Protection Directive and related security requirements for Microsoft Azure core features within ISO/IEC 27001:2005 scope.</li> <li><b>E.U. Model Contractual Clauses</b> that provide additional contractual guarantees around transfers of personal data for Microsoft Azure core features within ISO/IEC 27001:2005 scope.</li> </ul>

- Here are the options to ensure you are correctly Licensed for Software Azure IaaS / VM's:

<b>Microsoft Programme Benefits</b>		
<b>1</b>	<b>MSDN</b>	<b>MSDN Licences</b> - MSDN licenses can only be used for design, development, testing and demonstration. i.e. They cannot be used for revenue generation purposes. <ul style="list-style-type: none"> <li><a href="#">Terms of use</a></li> </ul>
<b>2</b>	<b>MPN</b> (Microsoft Partner Network)	<ul style="list-style-type: none"> <li>"Partners can deploy MPN IURs on Microsoft Azure only if the partner company has access to this virtual machine/data base.</li> <li>IUR software cannot be used for direct revenue-generating purposes that are commercial or personal."</li> <li><a href="#">Internal Use Software overview</a></li> <li><a href="#">FAQs</a></li> </ul>
<b>3</b>	<b>BizSpark</b>	As per MSDN
<b>Microsoft Commercial Agreements</b>		
<b>1</b>	<b>Utilise the Pre-Built Images for Azure VMs</b>	Obtain the images from our image gallery and pay the per-hour rate of the Software in Microsoft Azure Virtual Machines. Includes Windows Server, SQL Server, BizTalk.
<b>2</b>	<b>License Mobility through Software Assurance</b> (INTERNAL USE ONLY)	<ul style="list-style-type: none"> <li>License Mobility through Software Assurance lets you move certain on-premise licenses covered by Software Assurance to 3rd party shared servers. Volume Licensing SA Customers can upload VHD's with the image.</li> <li>Server applications eligible for License Mobility are detailed in the <a href="#">Microsoft Product Use Rights document</a></li> </ul>
<b>3</b>	<b>Service Provider License Agreement (SPLA)</b>	<ul style="list-style-type: none"> <li><a href="#">Service Provider Licence Agreement Programme</a> allows MSPs and ISVs to license MS products on a monthly basis. Find a reseller to set up the agreement <a href="#">here</a></li> <li>e.g. SQL Server Standard           <ul style="list-style-type: none"> <li>Install or upload your image with Subscriber Access License (SAL) reported via your SPLA. There is no SAL model for SQL Server Enterprise.</li> <li>SAL includes the server fee. The SPLA rules don't allow anything other than SAL to be used on Azure, because for Core or Proc licenses to be assigned, the physical configurations have to be known which is not possible in case of public cloud such as Azure.</li> </ul> </li> </ul>

### Access to Microsoft Server Software for running on Microsoft Azure

- The full list of what Microsoft Software supported by Microsoft Azure VM's is listed here:
- <http://support.microsoft.com/kb/2721672>

## 8. Azure Support

The fastest way to get a response to your technical or account issues, is through raising a ticket via the portal. Account and Billing support tickets are provided free of charge, and Technical support is available via one of the support packages listed below.

Please note, during an outage, it is vital that you raise a support ticket to ensure that you get the best support experience.

### 1. ALWAYS Check the Azure Status Dashboard

- Check the Status Dashboard to understand if there is an ongoing issue related to the service:
- <http://azure.microsoft.com/en-us/status/>

### 2. Get Support - Select a Microsoft Azure Support Offerings

- <http://www.windowsazure.com/en-us/support/plans/>
- [Support FAQ's](#)

Name	Price	Response Time	Detail
<b>Core</b>	Included	NA	<ul style="list-style-type: none"> <li>Forum support</li> <li>Account/Billing management</li> </ul>
<b>Developer</b>	\$29 a month	<8 Hours	<ul style="list-style-type: none"> <li>Unlimited break/fix via Web Submission</li> <li>NB. Not available for Azure EA</li> </ul>
<b>Standard</b>	\$300 a month	<2 Hours	<ul style="list-style-type: none"> <li>Unlimited break/fix via Web Submission</li> <li>3 x Telephone call backs per month</li> </ul>
<b>Pro-Direct</b>	\$1000 a month	<1 Hour	<ul style="list-style-type: none"> <li>Unlimited Telephone call backs with Priority handling</li> <li>Escalation services</li> <li>Pooled A/C management</li> <li>Some Proactive services</li> </ul>
<b>Premier</b>	>\$3000 a month	<1 Hour Minimum	<ul style="list-style-type: none"> <li>Unlimited Priority Telephone</li> <li>Assigned ADM</li> <li>Bespoke Proactive services/mentoring</li> <li>Rapid Response option</li> </ul>

### 3. Collect the necessary information for a Support ticket

- What information will the ask for → Click this [link](#)

### 4. Understand the Severity of the Incident:

- You are in control of the ticket priority, please review the ticket Severity levels below, and notify the allocated engineer if the severity changes:

Severity	Access Point	Response Times
		Developer Standard Pro-Direct

<b>A</b>	<b>Critical</b> business impact – Customer's business has significant loss or degradation of services and it requires urgent attention.	8 Hours	2 Hours	1 Hour
<b>B</b>	<b>Moderate</b> business impact - Customer's business has moderate loss or degradation of services but work can reasonably continue	8 Hours	4 Hours	2 Hours
<b>C</b>	<b>Minimum business impact</b> - Customer's business is functioning with minor or no service impediments	8 Hours	8 Hours	4 Hours

### 5. Raise a Support Incident

Method	Access Point
<b>Portal</b>	Access the portal to raise a support ticket
<b>Web Ticket</b>	<a href="http://www.windowsazure.com/en-us/support/contact/">http://www.windowsazure.com/en-us/support/contact/</a>
<b>Forum Post</b>	<a href="http://www.windowsazure.com/en-us/support/forums/">http://www.windowsazure.com/en-us/support/forums/</a>

- For Escalations:
  - Subscription Management: [wasmsesc@microsoft.com](mailto:wasmsesc@microsoft.com)
  - Technical Support: [APTSI@microsoft.com](mailto:APTSI@microsoft.com)
  - Professional Direct Escalation: [PDAzure@microsoft.com](mailto:PDAzure@microsoft.com)
  - If you need someone to pick up the case if the Case owner is Out of the office/Away:
    - [aznext@microsoft.com](mailto:aznext@microsoft.com)

### 6. Check the Additional Microsoft Azure Support Options and resources:

- [Microsoft Azure Status Dashboard](#) - Is there a services issue/incident?
- [Microsoft Azure Known Issues](#) - Is there a known problem?
- [Microsoft Azure Forums](#) - Do other people have a similar problem?
- [Microsoft Azure Blog](#) - For Major Azure product announcements
- [Microsoft Azure Twitter Feed](#) - For all things Microsoft Azure

#### IMPORTANT NOTES ON SUPPORT:

- Preview Services** - Support is limited to Support Forums
- Support Plan** - You cannot raise Technical support tickets without a Support plan
- EA Customers & Support** - EA Customers must buy Support via their LSP/LAR
- Support Entitlement** - The flat monthly cost for Azure Support covers the entire account regardless of how many subscriptions you have under the account or how much usage you have. All subscriptions under an account share the same support plan.
- Raising a Ticket** - To submit a support incident about a particular Azure subscription, you must be the Service Administrator or Co-Administrator ([To add Co-Administrator](#)).
- Root Cause Analysis** - Root Cause Analysis: All requests for the RCA of this incident can be made by submitting a support request
- Planned Maintenance** - Notices are sent to customers running 1 VM in IaaS (i.e. no SLA). Email sent to Azure subscription Admin ONLY, typically 2-5 days' notice
- Incident Hierarchy Definitions:**

- An **OUTAGE** is an incident impacting external customers, partners or consumers which results in a service not being delivered at the intended level
- A **SERVICE DISRUPTION** is any disruption of functionality provided by any Microsoft service to any user, process or technology (inside or outside)
- An **INCIDENT** is any event that deviates from the expected operation of a system.
- **Types of Events/Outage** - There are two types of Azure platform events that can affect the availability of your virtual machines: planned maintenance and unplanned maintenance.
  - **Planned maintenance events** are periodic updates made by Microsoft to the underlying Azure platform to improve overall reliability, performance, and security of the platform infrastructure that your virtual machines run on. The majority of these updates are performed without any impact upon your virtual machines or cloud services. However, there are instances where these updates require a reboot of your virtual machine to apply the required updates to the platform infrastructure.
  - **Unplanned maintenance events** occur when the hardware or physical infrastructure underlying your virtual machine has faulted in some way. This may include local network failures, local disk failures, or other rack level failures. When such a failure is detected, the Azure platform will automatically migrate your virtual machine from the unhealthy physical machine hosting your virtual machine to a healthy physical machine. Such events are rare, but may also cause your virtual machine to reboot.

Support for MSDN, TechNet, or Microsoft Partner Network (MPN) users and partners

- **I have a Microsoft subscription (such as MSDN, TechNet, or MPN) that includes a number of technical incidents. Can I use those for Azure technical incidents?**
  - Yes, in the incident submittal form, under "Other support options," click on the link to submit a technical incident utilizing Microsoft Professional Contract Support
- **I am an MPN partner. Can I use my MPN benefits to submit Azure technical incidents?**
  - Yes. In the incident submittal form, there will be a link to submit a technical incident utilizing MPN benefits
- **Will MPN partners be able to access their traditional MPN Benefits for Azure?**
  - Yes. The partner will still be able to utilize the same MPN benefits they have for other products
- **I am developing applications on behalf of or assisting my client that is running on Azure. How do I get support?**
  - You can get support from Azure in one of two ways. One is to purchase support for your account. You can purchase an Azure Support plan from your Azure account, and any subscription under the account is covered by the same support plan. The other way is to get support from your client's account. If you manage the deployment on a subscription under your client's account as a Service Administrator or Co-Administrator, then you can use your own Partner benefits to submit a support incident or your client must have an Azure Support plan to cover the support for that subscription.

## 9. Security, Privacy and Compliance

Microsoft strives to take a leadership role when it comes to security, privacy, and compliance practices. We employ robust policies and processes to ensure we deliver a trusted cloud environment and we openly share the results of our third-party audits that review the effectiveness of our internal controls with prospective customers and partners. Here are the key links:

### Microsoft Azure Trust Centre

- [Trust Centre - Home](#) – The Trusted Cloud
- [Trust Centre - Security](#) – Security is built into Azure from the ground up
- [Trust Centre - Privacy](#) – Azure is designed to protect the privacy of our customers
- [Trust Centre - Transparency](#) – Open and Transparent on how we run the platform
- [Trust Centre - Compliance](#) - Industry-verified conformity with Global Standards
- [FAQ's](#)

### Security:

- [Standard Response to Security and Privacy RFI](#)
- [Microsoft Azure Cloud Security Alliance STAR submission](#)
- [GFS Security and Compliance](#)
- [Penetration Testing Approval Form](#) - We understand that security assessment is also an important part of our customers' application development and deployment. To initiate penetration testing, please download the Penetration Testing Approval Form [here](#) and then contact Support.

### Privacy

- [Customer Data, EU Data Protection Directive etc](#)
- [Privacy Statement](#)
- [Data Protection Whitepaper](#)
- [Official Blog of Brad Smith](#) - Microsoft Commentary from General Counsel & Executive VP, Legal & Corporate Affairs

### Microsoft Azure Specific Documentation:

	What is it?
ISO 27001 & ISO 27018	<ul style="list-style-type: none"><li>• ISO27001 Formally specifies a management system that is intended to bring information security under explicit management control.</li><li>• Microsoft Azure is committed to annual <a href="#">ISO/IEC 27001:2005 certification</a>. The <a href="#">certificate</a> issued by the <a href="#">British Standards Institution</a> (BSI) is publicly available. It includes over 130 security controls, and it maps Microsoft Azure controls to control objectives contained in Annex A of ISO/IEC 27001:2005.<ul style="list-style-type: none"><li>• <a href="#">ISO 27001 certificate</a></li><li>• <a href="#">Microsoft Azure ISO 27001 controls</a></li></ul></li><li>• Microsoft Azure services have incorporated the controls that embody ISO/IEC 27018 – the first international standard governing the processing of personal information by cloud service providers. ISO 27018 builds on ISO 27001 in a number of important ways, including controls that reflect considerations specifically for the processing of personally identifiable information in cloud services.</li></ul>

SSAE 16 / ISAE 3402  SOC Reports	<ul style="list-style-type: none"><li>• Accounting standard relied upon as the authoritative guidance for reporting on service organizations (SOC 1, SOC 2, SOC 3)</li><li>• Annual audit, controls monitored for 6 months, 10 domains, detailed audit report shared with customers under NDA</li><li>• Microsoft Azure has been audited against the Service Organization Control (SOC) reporting framework for:<ul style="list-style-type: none"><li>• The <b>SOC 1 Type 2</b> audit report attests to the design and operating effectiveness of Microsoft Azure controls.</li><li>• The <b>SOC 2 Type 2</b> audit included a further examination of Microsoft Azure controls related to security, availability, and confidentiality. Microsoft Azure is audited annually to ensure that security controls are maintained.</li><li>• We have also just published the <b>Independent Service Auditor's Report from Deloitte &amp; Touche</b> for our cloud infrastructure</li></ul></li><li>• To get access to the reports please contact your Account representative</li></ul>
Payment Card Industry (PCI) Data Security Standards (DSS) Level 1	<ul style="list-style-type: none"><li>• Microsoft Azure is Level 1 compliant under the <a href="#">Payment Card Industry (PCI) Data Security Standards (DSS)</a> as verified by an independent Qualified Security Assessor (QSA), allowing merchants to establish a secure cardholder environment and to achieve their own certification.</li><li>• The PCI DSS is an information security standard designed to prevent fraud through increased controls around credit card data. PCI certification is required for all organizations that store, process or transmit payment cardholder data. Customers can reduce the complexity of their PCI DSS certification by using compliant Microsoft Azure services.</li><li>• <b>Scope:</b> The Information Security Management System (ISMS) for Microsoft Azure, including infrastructure, development, operations and support for Compute, Data Services, App Services and Network Services are in scope for the PCI DSS Attestation of Compliance.</li><li>• The <a href="#">Microsoft Azure PCI Attestation of Compliance</a> and <a href="#">Microsoft Azure Customer PCI Guide</a> are available for immediate download.</li></ul>
E.U. Data Protection Directive	<ul style="list-style-type: none"><li>• Law that sets a baseline for handling personal data in the EU, Microsoft complies through EU-US Safe Harbor Framework</li><li>• EU regulators and customers asking for EU Model Clauses<ul style="list-style-type: none"><li>• <a href="#">Customer Data, EU Data Protection Directive etc</a></li></ul></li><li>• For our Enterprise agreement customers, we have:<ul style="list-style-type: none"><li>• A <b>Data Processing Agreement</b> that details our compliance with the E.U. Data Protection Directive and related security requirements for Microsoft Azure core features within ISO/IEC 27001:2005 scope.</li><li>• <b>E.U. Model Contractual Clauses</b> that provide additional contractual guarantees around transfers of personal data for Microsoft Azure core features within ISO/IEC 27001:2005 scope.</li></ul></li></ul>
Article 29 Working Party	<ul style="list-style-type: none"><li>• The European Union's data protection authorities have found that Microsoft's enterprise cloud contracts meet the high standards of EU</li></ul>

	<p>privacy law. This ensures that our customers can use Microsoft services to move data freely through our cloud from Europe to the rest of the world</p> <ul style="list-style-type: none"> <li>The EU's 28 data protection authorities acted through their "Article 29 Working Party" to provide this approval via a joint letter.</li> <li>By acknowledging that Microsoft's contractual commitments meet the requirements of the EU's "model clauses," Europe's privacy regulators have said, in effect, that personal data stored in Microsoft's enterprise cloud is subject to Europe's rigorous privacy standards no matter where that data is located. This is especially significant given that Europe's Data Protection Directive sets such a high bar for privacy protection</li> <li>Meaning customers can be reassured that no matter where their data is located in the world it is protected to a standard which is no lower than that required by the EU data protection authorities</li> <li><a href="http://blogs.microsoft.com/blog/2014/04/10/privacy-authorities-across-europe-approve-microsofts-cloud-commitments/">http://blogs.microsoft.com/blog/2014/04/10/privacy-authorities-across-europe-approve-microsofts-cloud-commitments/</a></li> </ul>		
<b>Safe Harbor Certification</b>	<ul style="list-style-type: none"> <li>US-EU Safe Harbor is a streamlined process for US companies to comply with the EU Directive 95/46/EC on the protection of personal data.</li> <li>Intended for organizations within the EU or US that store customer data, the Safe Harbor Principles are designed to prevent accidental information disclosure or loss. US companies can opt into the program as long as they adhere to the 7 principles outlined in the Directive. <ul style="list-style-type: none"> <li><a href="#">Safe Harbor Certification</a></li> </ul> </li> </ul>	<b>HIPAA</b>	<ul style="list-style-type: none"> <li>HIPAA and the HITECH Act are United States laws that apply to most doctors' offices, hospitals, health insurance companies, and other companies involved in the healthcare industry that may have access to patient information (called Protected Health Information or PHI). In many circumstances, for a covered healthcare company to use a service like Microsoft Azure, the service provider must agree in writing to adhere to certain security and privacy provisions set forth in HIPAA and the HITECH Act.</li> <li>This is ONLY available to Enterprise agreement customers. <ul style="list-style-type: none"> <li><a href="#">HIPAA Business Associate Agreement (BAA)</a></li> <li><a href="#">Microsoft Azure HIPAA Implementation Guidance</a></li> </ul> </li> </ul>
<b>Law Enforcement Requests Report</b>	<ul style="list-style-type: none"> <li>Microsoft's Law Enforcement Requests Report for the first six months of 2013. This is our second Law Enforcement Requests Report and it covers the period from January to June 2013.</li> <li>The report details the number of requests for data we received from law enforcement agencies around the world, and how Microsoft responds to those requests. It covers requests for data relating to all of Microsoft's online and cloud services, including Skype: <ul style="list-style-type: none"> <li><a href="http://www.microsoft.com/about/corporatecitizenship/en-us/reporting/transparency/">http://www.microsoft.com/about/corporatecitizenship/en-us/reporting/transparency/</a></li> </ul> </li> </ul>	<b>FISMA</b>	<ul style="list-style-type: none"> <li>U.S. Federal law enacted in 2002, based on NIST 800 series, 18 control domains, in-depth audit, documentation heavy</li> <li>Applies to all U.S. Federal agencies, New FedRAMP became effective in June 2012</li> <li><a href="http://blogs.technet.com/b/gfs/archive/2010/12/02/microsoft-s-cloud-infrastructure-receives-fisma-approval.aspx">http://blogs.technet.com/b/gfs/archive/2010/12/02/microsoft-s-cloud-infrastructure-receives-fisma-approval.aspx</a></li> </ul>
<b>UK Gov't Impact Level 2 (IL2)</b>	<ul style="list-style-type: none"> <li>Microsoft's cloud computing platform is now accredited to store and communicate data securely up to the UK Government's Impact Level 2 classification <ul style="list-style-type: none"> <li><a href="#">See details here: IL2 Certified</a></li> </ul> </li> </ul>	<b>Microsoft Vendor Privacy Assurance Program</b>	<ul style="list-style-type: none"> <li>We require subcontractors to join Microsoft's Vendor Privacy Assurance Program, to meet our privacy requirements by contract, and to undergo regular privacy training. We contractually obligate subcontractors that work in facilities or on equipment controlled by Microsoft to follow our privacy standards. All other subcontractors are contractually obligated to follow privacy standards equivalent to our own. <ul style="list-style-type: none"> <li><a href="#">Microsoft Azure List of Subcontractors</a></li> </ul> </li> </ul>
<b>UK Government G-Cloud</b>	<ul style="list-style-type: none"> <li>For UK Public Sector customers who wish to easily procure Azure Core Services (without going through a separate complex procurement process) then Microsoft has been awarded a place on the current G-Cloud Framework</li> <li>If you would like to submit your Apps and services on the G-Cloud Framework and the associated CloudStore, see <ul style="list-style-type: none"> <li><a href="http://gcloud.civilservice.gov.uk/supplier-zone/accreditation/">http://gcloud.civilservice.gov.uk/supplier-zone/accreditation/</a></li> </ul> </li> <li>For further questions, contact Daniel Batts at <a href="mailto:daniel.batts@microsoft.com">daniel.batts@microsoft.com</a> or speak to your Partner Manager.</li> </ul>		

# 10. Microsoft Azure Marketing Support for CSVs

## Microsoft Go To Market (GTM) Programme for Azure CSVs:

- Microsoft has designed a GTM program to help you promote and grow your Microsoft Azure applications. To join the program, contact your Microsoft Azure ISV representative or:
  - Sign up for [Partner Community news](#), or
  - Email: [AzureGTMPartner@Microsoft.com](mailto:AzureGTMPartner@Microsoft.com) or
  - Visit: <http://www.MicrosoftGoToMarket.com>
- There are a suite of offers to drive demand for your solution including:
  - FREE Digital Media Marketing funds
  - CoMarketing funds
  - [Mini-Case Study \(Template, Example\)](#)
  - [Joint App Selling Datasheet \(Template, Example\)](#)
  - Joint Case Studies,
  - Microsoft Social Media,
  - Guest blogging on MSDN/Technet,
  - Press releases and joint PR work,
    - [Microsoft Azure Press Release Template \(1.2 & 1.3\)](#)
  - Video Stories on the [Azure Partner Blog on Channel 9](#)
  - Video Stories on the [Partner Blog on Channel 9](#)

## Other useful Marketing Opportunities

- [Marketing Made Easy](#) with Resource IT
- [Partner Marketing Centre](#)
- [Cloud Channel Development](#) materials
- [Pinpoint](#) to identify new partners OR find applications and services
- [Windows Phone Marketplace](#): - For all Windows Phone Apps
- [Dynamics Marketplace](#): - Boost productivity with Dynamics solutions
  - Dynamics CRM concierge service: <http://crmtestdrive.dynamics.com/en-gb/concierge>
- [Office 365 Marketplace](#): - innovative professional services and applications
- [Windows 8 Store](#): Included as part of the OS on every Windows 8 device

## Events

- [Microsoft Led Events](#)
- [Run your own @ MSFT](#)
- [Tools to run an Event](#)

## Interested in Building a Apps for Windows or Dynamics CRM

- <http://www.windows-appbuilder.co.uk/>
- <http://developer.microsoft.com/>
- <http://aka.ms/CrmResourceKit>

## Microsoft International Events Schedule

- If you want to find out about the latest innovations in Microsoft products and services, or you would like to network with Microsoft Sellers. Partners and customers, look out for opportunities to attend the following Global Conferences:

Date	Corp Event	Web site	Overview
July	<b>Worldwide Partner Conference (WPC)</b>	<a href="https://register.digitalwpc.com">https://register.digitalwpc.com</a>	Microsoft Worldwide Partner Conference for Resellers, SI's, ISVs etc
July	<b>MGX</b>	Internal Microsoft Only	Microsoft Worldwide internal sales conference. This is an internal only event, but there is usually a Partner showcase.
Nov	<b>Future Decoded</b>	tbc	UK Event focused on customer, partner and developer with relevant industry content
Feb	<b>UK Tech Days Online</b>	<a href="https://msdn.microsoft.com/en-gb/dn877971.aspx">https://msdn.microsoft.com/en-gb/dn877971.aspx</a>	UK Online Technical workshops and webinars
March	<b>Convergance</b>	<a href="http://www.microsoft.com/en/convergence">http://www.microsoft.com/en/convergence</a>	Microsoft's Dynamics showcase for customers, partners. It's all about CRM/ERP
April/May	<b>Build</b>	<a href="http://www.buildwithows.com/">http://www.buildwithows.com/</a>	Build will cover all Microsoft Platforms - expect rich new content and information on Windows, Azure, Office 365 and more. Developers will receive deep training, allowing them to take advantage of the incredible advances in our platforms
May	<b>Ignite</b>	<a href="http://ignite.microsoft.com">http://ignite.microsoft.com</a>	Ignite replaces and brings under a single umbrella a number of Microsoft conferences including TechEd, the Microsoft Management Summit, the Exchange, SharePoint, Lync and Project conferences. Cloud infrastructure and management, productivity, big data and the internet of things, unified communications, mobility and more.

## 12. Microsoft Azure Marketplace

The Azure Marketplace brings the quality, choice, and strength of the Azure partner ecosystem to customers around the world.

- <http://azure.microsoft.com/en-us/marketplace/>

### Why publish in Azure Marketplace?

- Access to customers
  - Azure has 100,000 NEW subscriptions month
  - 57% of the Fortune 500 use Azure
  - Take the pain of our ecommerce engine as Azure is available in over 86 countries
- Work with Microsoft Sellers
  - Microsoft sellers are incented to work with ISV solutions in Marketplace
- Differentiate yourself with Microsoft Azure Certified
- Remove the Commerce and legal pain of selling your solution in over 86 countries – Microsoft manages the ecommerce transaction through the regular Azure invoice process

### What can you publish in Marketplace?

Services	What is it	Commerce Enabled	Microsoft Certified
<b>Virtual Machines</b>	Microsoft and partner applications that are configured to run in Azure Virtual Machines	Yes	Yes
<b>Application Services</b>	Partner services that can be combined with Azure services to build powerful cloud apps	Yes	Yes
<b>Data Services</b>	Data services such as demographics and financial information that can be used in custom applications	No	Yes
<b>Web Applications</b>	Free open source applications pre-configured to run in Azure Websites	No	No
<b>Azure Active Directory</b>	Free pre-integrated and ready-to-use SaaS applications configured with single sign-on	No	No

### What do I need to know about Marketplace?

- Solutions are deployed in the customers own subscription, and in the datacentre region that they require (you can limit this). Useful to note:

#### • For Customers:

- They cannot use their "Monetary Commitments" for buying Marketplace services
- There are no Microsoft Volume License discounts on Marketplace services
- Marketplace purchases are invoiced separately on PAYG or as Overage on EA

- Marketplace purchases cannot be transferred between subscriptions or to EA, they will need to be redeployed
- In an EA, administrators can control Marketplace purchases on Azure

#### • For Application Builders and ISVs:

- ALL Payments from Microsoft to the 3<sup>rd</sup> party are paid via EFT quarterly (Net 45 days)
- Microsoft will take a 20% of each ecommerce transaction in order to fund marketing programmes and incentives.
- Start onboarding by contacting your account manager or <http://azure.com/certified>
- Pricing of solutions can be:
  - **BYOL Model:** Bring-your-own-license - offers do not incur a software fee/charge. However, Azure infrastructure charges may apply.
  - **Hourly Model:** You are charged or billed based on the total number of hours the solution is active and running
  - **Monthly Fee:** You are charged or billed a flat fee on a monthly basis
  - **Free Tiers:** free offer, typically with a smaller set of capabilities or usage limits.
  - **Free Software Trial (Try it now):** Full-featured version of the offer that is promotionally free for a limited period of time. Azure infrastructure changes may apply. Upon expiration of the trial period, you will automatically be charged or billed for the standard rates associated with the offering.

### Microsoft Azure Certified

- Put your products directly in front of the global Azure customer base where they can confidently purchase and deploy your Virtual Machines and application services on Azure with the knowledge that they have been vetted through the Microsoft Azure Certified program
- The Microsoft Azure Certified program gives you powerful new ways to promote and sell your applications and services, including the ability to monetize them in the Microsoft Azure Marketplace
- Where can you get further information:
  - For full details of the program go to:
    - <http://azure.microsoft.com/en-us/marketplace/partner-program/>
    - Contact [azurecertified@microsoft.com](mailto:azurecertified@microsoft.com) with questions



# 13. Microsoft Partner Network (MPN) and BizSpark for Azure CSVs

## Microsoft Partner Network (MPN)

### What is MPN?

- The [Microsoft Partner Network](#) (MPN) is Microsoft's core Partner program. When you join MPN you receive a set of core benefits that can help you save time and money while you strengthen your capabilities, better serve customers, and build connections.

### What are the 4 X MPN Levels?

- Network Members get access to the [Core Benefits](#)
- [Action Pack](#) Subscription Members - costs £310 p.a.
  - [Overview](#)
  - [Detail Benefits and Requirements](#)
  - [FAQ](#)
- Silver [Competency](#) – reflect partners with consistent capability, expertise, commitment
- Gold [Competency](#) - demonstrate best-in-class capability within a specific solution area

### What are the most appropriate competencies for an ISV/CSV?

- The programme continues to evolve and the [MPN disclosure guide](#) outlines future changes. At this moment, as an ISV or CSV, the most appropriate Competencies are:

Type of Competency	Key Links
Application Development Competency	<ul style="list-style-type: none"><li><a href="#">Guide</a></li><li><a href="#">Detailed requirements and benefits</a></li><li><a href="#">Software and Online Services benefits</a></li><li><a href="#">MPN software licensing benefits FAQ</a></li><li><a href="#">Partner Benefits Statement</a></li></ul>
Cloud Platform Competency	<ul style="list-style-type: none"><li><a href="#">Detailed requirements and benefits</a></li><li><a href="#">Software and Online Services benefits</a></li><li><a href="#">MPN software licensing benefits FAQ</a></li><li><a href="#">Partner Benefits Statement</a></li><li><a href="#">FREE Signature Cloud Support</a></li></ul>

### What are the Gold or Silver Competency Benefits?

- There are lots of benefits associated with each competency including:
  - MSDN Subscriptions, [Internal use Rights software](#), Free Azure usage (to use for your internal applications or internal development and testing), Education, MPN competency logo, [Partner Advisory hours](#), Product support, Signature cloud support, [Run an event @ Microsoft](#)

### Where can you go for MPN help and assistance?

- Check out the MPN FAQ [here](#)
- For help and assistance related to the MPN, please contact the Regional Support Centre:
  - Telephone: 0800-917-3128 or 0344 8006006
  - Web: <http://ukgo.ms/support>
  - Email: [mpnemea@msdirectservices.com](mailto:mpnemea@msdirectservices.com)

## Microsoft BizSpark

### Overview

- The Microsoft *BizSpark* 3 year program provides technology, support, visibility, and community to promising startups and entrepreneurs at no charge. Startups become part of the BizSpark ecosystem and get access to investors, advisors, and valuable offers to help run their businesses, find talent, and obtain financing.
- Home Page: <http://www.microsoft.com/bizspark/>
- FAQ's: <http://www.microsoft.com/bizspark/faqs.aspx>
- Microsoft Ventures: <https://www.microsoftventures.com/>

### Criteria

- Developing Software
- Privately held
- Less than 5 years old
- Making Less than US \$1 million in annual revenue

### Key Benefits:

- Software:**
  - BizSpark members receive access to Not-For-Resale software versions equivalent to those included in the Visual Studio Ultimate with Microsoft Developer Network subscription. BizSpark software is for design, development, test, and demo only. For the most up to date listing of this products click [products by benefit level](#) and then click **Visual Studio Ultimate with MSDN** tab for a representative list of products.
  - To download the software, go to [Microsoft Developer Network](#) site for the most up to date listing of our software products; to access any of this software, please ensure you are signed into your BizSpark account with the appropriate Microsoft Account. There is a product key section here: <https://msdn.microsoft.com/en-us/subscriptions/keys/>
- Microsoft Azure**
  - BizSpark subscribers are eligible for the entire term of their BizSpark membership for a US\$150 monthly amount of Azure resources. Offer details: [BizSpark Azure](#).
- Support**
  - Each startup receives four technical support incidents, managed by Microsoft. Once you connect with [Microsoft Developer Network support](#), please provide them your BizSpark Subscriber ID. They will provide this service without a charge. In addition, you have the opportunity to [access technical resources, product training and business tools](#) for your startup
- Exclusive Offers:**
  - Exclusive offers for Bizspark members: <http://www.microsoft.com/bizspark/offers/default.aspx>

### Contact Microsoft BizSpark UK

- Email: [ebtuk@microsoft.com](mailto:ebtuk@microsoft.com)
- Web: <https://www.microsoft.com/bizspark/SignUp/default.aspx>

## 14. Frequently Asked Questions

### Microsoft Azure Purchasing FAQs:

- <http://www.windowsazure.com/en-us/pricing/faq/>

### Microsoft Azure VM Pricing FAQs

- <http://www.windowsazure.com/en-us/pricing/licensing-faq/>

### Microsoft Azure Store FAQs:

- <http://www.windowsazure.com/en-us/store/faq/>

### Microsoft Azure Support FAQs:

- <http://www.windowsazure.com/en-us/support/faq/>

### Microsoft Azure Trust Centre FAQs

- <http://www.windowsazure.com/en-us/support/trust-center/faq/>

### Microsoft Azure CSV FAQs:

### MICROSOFT RELATIONSHIP

#### • How can I swap Confidential Information with Microsoft?

- If you are a member of the Microsoft Partner Network, you will have agreed to the following T's & C's. Section 7 contains the confidential terms.
- If you would like specific terms and conditions, your Microsoft contact can provide a specific NDA if you provide Company Name, Address, Authorised Signatory and Job title.

### SUBSCRIPTIONS

#### • Can I change a subscription from one country to another?

- Once an account is created, the country cannot be changed. This is due to tax and billing reasons. However if you can set up a new account and activate a Pay-As-You-Go. Once this is done, raise a support ticket to move the services to the new subscription.

#### • Can I move services between subscriptions?

- Yes it is possible to move the services deployed under one EA subscription to another EA but you need to make sure you are the service administrator for both subscriptions.
- To do this, sign into management portal <https://manage.windowsazure.com> and create a billing support case.
- The process is called Data Migration is subject to certain terms and conditions and also depends upon the kind of services that are deployed.
- Moving workloads and data between subscriptions is seamless and does not have any downtime.
- We do not support selective service transfer. i.e. transfer selected hosted service, storage service from one subscription to another. It may become available in future but today, we must transfer all or nothing.
- The destination subscription must be completely empty.
  - Source subscription and destination subscription must have the same service admin (at least till the migration completes). Steps to change Service Admin
  - Login into <https://account.windowsazure.com> using your Live ID.
    - Click on the "Account" tab.
    - Click on the "Subscriptions" tab.
    - Select the subscription for which you want to change the Service-Administrator.

- Click on "Edit Subscription Details".

- Here you will find the option to change the Service-Administrator.

#### • Azure Services migrated By MICROSOFT:

- Virtual Machines, Cloud Services, Websites, Media Services, Service Bus, CDN, Storage, Multi Factor Authentication (both subscriptions must be in the same Active Directory), Traffic Manager, Mobile Services, Virtual Network, Access Control Service (ACS)

#### • Azure Services migrated by YOU:

- SO, SQL DB, Active Directory (AAD)

#### • Azure Services that CANNOT be migrated:

- Cache, BizTalk Services, HD Insight, Backup, Hyper-V Recovery Manager, Azure Store, Import / Export, scheduler, Management Services, Azure Automation
- Tenants in Preview cannot be moved.
- Deprecated Services will not be migrated.

### BILLING & VAT

#### • How is VAT handled on Microsoft Azure?

- The arrangements on VAT and Microsoft Azure are outlined here:
  - <http://www.windowsazure.com/en-us/pricing/faq/>

### GREEN AGENDA

#### • What are Microsoft's Green Credentials in the Cloud?

- [Environmental Sustainability and the Cloud](#) – Home Page
- [The Environmental Benefits of Moving to the Cloud](#) – Accenture Whitepaper
- [Future Data Centre Sustainability](#) – Global Foundation Services approach

# Appendix 1 – Azure Enterprise Agreement – Server & Cloud Enrolment

The Enterprise Agreement is often the most efficient and effective way to purchase Microsoft Azure subscriptions.

## What is the **MICROSOFT AZURE ENTERPRISE AGREEMENT**?

- This is an upfront Monetary commitment for Microsoft Azure services
- The minimum commitment is \$25,000 and it is billed annually upfront
- The level of commitment drives discount levels, access to marketing funds, additional technical support and additional commercial options
- Azure usage is drawn down from the commitment at the discounted rate.
- Agreement length is 36 months, billed 12 months in advance and with the ability to increase and decrease commitments at the start of Year 2 and 3.
- If you do NOT use your commitment within the contract commitment, you will lose it.
- The agreement is transacted through our Large account resellers (LARs)
- No refunds if you cancel the commitment in the middle of the term

## 1. What are the **BENEFITS** of the Microsoft Azure Agreement?

- Large Discount on your Microsoft Azure Spend
- Major efficiencies in billing as you move from monthly billing to Annual payments
- Access to the Enterprise Portal that allows you to manage your subscriptions and aggregate usage data across ALL your subscriptions
- Access to deployment funds, Azure customer bonuses

## 2. What is the **PRICING AND DISCOUNTING** structure for the agreement?

- FYI – Microsoft EA pricing commitment is to a price level, and not to a discount percentage

	Monetary Commitment	EA Level
Level A	\$25,000	3%
Level B	\$199,200	6%
Level C	\$499,200	9%
Level D	\$1,000,000	12%

- If Microsoft introduces new Azure services or reduces the price of existing services during the agreement period, Microsoft will automatically pass these on to EA customers.
- Pricing details are here: <https://ea.windowsazure.com/home/pricingoverview.pdf>
- Please note: For Storage capacity, including Block Blobs, Pages and Disks, Tables and Queues, EA waterfall discounting will no longer be available. EA customers will get the lowest graduated price offered under our Azure Agreement program for all usage (i.e. the 1000 to 5000 TB / Month tier). EA customers will continue to receive EA waterfall discounts on storage transactions and data transfers.

## 3. What is a **TOP UP** to your Monetary Commitment?

- Top ups can be created by obtaining a quote and raising a PO for the value

- Top ups to your commitment will be at the same discounted rate as your EA price level unless you go over a larger discount tier
- Additions to commitment balance are shown under the "View Usage Summary" view
- Top Ups become effective and can now (01/10/14) be backdated to the 1<sup>st</sup> of the month
- Top Ups DO NOT credit / remove any overage balance
- You cannot top up in the last month of the agreement
- If you do NOT use your commitment within the contract commitment, you will lose it.

## 4. What is the **CONSUMPTION ALLOWANCE**?

- If you use more Microsoft Azure than your commitment without topping up, you hit your consumption allowance.
- Consumption allowance is charged at the same discount rate as your agreement.
- The consumption allowance is billed at the end of the contract period UNLESS you use more than 50% of your commitment balance. At this point invoices will be produced quarterly in arrears.
- Notification is sent in the first week following the end of the quarter and you have 28 days before an invoice is generated to associate it with a specific PO
- The invoice is sent electronically but you can print it at explore.ms

## 5. What about **AZURE STORE PURCHASES**?

- Direct Enterprise Agreement (EA) customers can purchase from the Azure Store. Azure Store purchases will be billed quarterly as overage against your EA.

## 6. What is the **MICROSOFT AZURE ENTERPRISE PORTAL**?

- The EA Portal will allow you to manage your usage, accounts, and pricing.
- Annual invoice for monetary commitment and maximum of 4 quarterly overage invoices
- Summary level visibility of service usage and costs across all accounts and subscriptions
- Periodic usage notifications (daily, weekly or monthly) to inform the customer of their remaining monetary commitment OR quarterly overage
- Ability to download detail usage records and view cost at the account and subscription levels. Useful to note on the EA Portal:
- Demo videos of the EA Portal:

[Role of Account Owner Direct or Indirect Oct 17](#)

[Role of the Direct Customer Ent Admin Oct 17](#)

## Appendix 2 – Useful Tools and Third Party Tools and Enablers

Attached are some common technologies deployed with Microsoft Azure. Some of these are available to deploy via the Microsoft Azure Marketplace: <http://azure.microsoft.com/en-us/marketplace/>  
 In the Microsoft Azure Store you can Discover, purchase, and provision application and data services from Microsoft partners. These services can be combined with Microsoft Azure services from Microsoft to build powerful cloud solutions (and managed through the Azure management portal with service usage included on a single bill from Microsoft).

Building Blocks			
<b>Barracuda Firewall</b> <i>"Protecting Azure IaaS/PaaS application"</i>	Barracuda	<ul style="list-style-type: none"> <li>If a business has an application hosted on Microsoft Azure, it will at some point be exposed to the internet in order to be commercially useful. The public internet brings with it both customers and attackers. As the value of the data within an application increases, so does its attractiveness to attackers. Use Barracuda Networks Web Application Firewall virtual device to protect Azure IaaS web servers or PaaS web roles</li> </ul>	<ul style="list-style-type: none"> <li><a href="http://blogs.msdn.com/b/msftashwin/archive/2014/01/28/how-to-setup-and-protect-an-azure-application-with-a-barracuda-firewall-v3.aspx">http://blogs.msdn.com/b/msftashwin/archive/2014/01/28/how-to-setup-and-protect-an-azure-application-with-a-barracuda-firewall-v3.aspx</a></li> </ul>
<b>Azure Pack</b>	Microsoft	<ul style="list-style-type: none"> <li><a href="#">Microsoft Azure Pack</a> - The Microsoft Azure Pack delivers Microsoft Azure technologies for you to run inside your datacenter. Offer rich, self-service, multi-tenant services and experiences that are consistent with Microsoft's public cloud offering</li> </ul>	<ul style="list-style-type: none"> <li><a href="http://www.microsoft.com/en-us/server-cloud/products/windows-azure-pack/">http://www.microsoft.com/en-us/server-cloud/products/windows-azure-pack/</a></li> </ul>
<b>Hanu Insights</b>	Hanu Insights	<ul style="list-style-type: none"> <li>The IT governance and financial management solution designed to maximize your Microsoft Azure investment through effective governance. Hanu Insights provides Enterprise IT Chargeback, Self-Service IT, and Deployment for Microsoft Azure</li> </ul>	<ul style="list-style-type: none"> <li><a href="http://www.hanuinsight.com/">http://www.hanuinsight.com/</a></li> </ul>
Monitoring Tools			
<b>New Relic</b> <i>"Azure Application Performance"</i>	New Relic	<ul style="list-style-type: none"> <li>New Relic is the all-in-one web application performance tool that lets you see performance from the end user experience, through servers, and down to the line of app code.</li> </ul>	<ul style="list-style-type: none"> <li><a href="http://azure.microsoft.com/en-us/marketplace/partners/new-relic/new-relic/">http://azure.microsoft.com/en-us/marketplace/partners/new-relic/new-relic/</a></li> </ul>
<b>Application Insights</b> <i>Detect issues, solve problems and continuously improve your web applications</i>	Microsoft	<ul style="list-style-type: none"> <li>Detect issues, solve problems and continuously improve your applications. Quickly diagnose any problems in your live application. Understand what your users do with it. Configuration is very easy, and you'll see results within minutes. We currently support ASP.NET web applications and WCF services, Windows Phone and Windows Store apps</li> </ul>	<ul style="list-style-type: none"> <li><a href="http://azure.microsoft.com/en-us/documentation/articles/app-insights-get-started/">http://azure.microsoft.com/en-us/documentation/articles/app-insights-get-started/</a></li> </ul>
<b>Azure Operational Insights</b> <i>"Analyse Azure Workloads"</i>	Microsoft	<ul style="list-style-type: none"> <li>Gain deeper insight into your environments by:                             <ul style="list-style-type: none"> <li>Collect, search for and visualise machine data,</li> <li>Manage and forecast the capacity of your infrastructure,</li> <li>Assess the safety and security of your servers</li> <li>Track server configuration changes</li> <li>Proactively avoid workload problems</li> <li>Ensure that your servers are up to date</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><a href="http://azure.microsoft.com/en-gb/services/operational-insights/">http://azure.microsoft.com/en-gb/services/operational-insights/</a></li> </ul>
<b>System Centre Management Pack for Microsoft Azure</b>	Microsoft	<ul style="list-style-type: none"> <li>The System Center Management Pack for Windows Azure enables you to monitor the availability and performance of resources that are running on Windows Azure</li> </ul>	<ul style="list-style-type: none"> <li><a href="http://www.microsoft.com/en-gb/download/details.aspx?id=38414">http://www.microsoft.com/en-gb/download/details.aspx?id=38414</a></li> </ul>
Assess, Convert, Migrate and Move Tools			
<b>Microsoft Assessment and Planning Toolkit (MAP)</b> <i>"Assessing Infrastructure for moving to the cloud"</i>	Microsoft	<ul style="list-style-type: none"> <li>MAP provides detailed readiness assessment reports with extensive hardware and software information, and actionable recommendations to help organizations accelerate their IT infrastructure planning process, and gather more detail on assets that reside within their current environment. MAP also provides server utilization data for Hyper-V server virtualization planning.</li> </ul>	<ul style="list-style-type: none"> <li><a href="http://technet.microsoft.com/en-us/library/bb977556.aspx">http://technet.microsoft.com/en-us/library/bb977556.aspx</a></li> </ul>
<b>Cloud AppDiscovery Tool</b>	Microsoft	<ul style="list-style-type: none"> <li>We all know cloud services are in much wider use in businesses than we realise, but can you prove it? Corporate compliance may want Dropbox blocked, but does that mean it really is? And have the users just migrated to something else you are not blocking? A new tool from Microsoft aims to enable you to scan for cloud services permeating your business</li> <li>Discover all cloud apps in use within your organization - Gain a comprehensive view into your cloud usage across your organization</li> </ul>	<ul style="list-style-type: none"> <li><a href="https://appdiscovery.azure.com/">https://appdiscovery.azure.com/</a></li> </ul>

		<ul style="list-style-type: none"> <li>• Fast setup - Install the agent to discover all cloud apps in your organization within minutes</li> <li>• Manage your cloud apps with Azure AD - Enable the secure adoption of public cloud apps with Microsoft Azure Active Directory</li> </ul>	
<b>Elastacloud Liberty Tool</b> Cost Saving assessment of Azure (against Amazon)	Elastacloud	<ul style="list-style-type: none"> <li>• AWS- Liberty is a tool which allows businesses to measure the cost of their Amazon Web Services virtual machines, storage and other components and generate a report demonstrates the cost savings that can be made by migrating to Microsoft Azure</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://liberty.elastatools.com/">http://liberty.elastatools.com/</a></li> </ul>
<b>Microsoft Virtual Machine Converter Solution Accelerator</b> "Convert VMware-based VMs to Hyper-V®-based VMs"	Microsoft	<ul style="list-style-type: none"> <li>• Convert virtual machines and disks from VMware hosts to Hyper-V hosts and Windows Azure or convert computers and disks to Hyper-V hosts. This page contains only setup files and a list of Windows PowerShell cmdlets that are related to MVMC. For a detailed document, see Microsoft Virtual Machine Converter 3.0</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://www.microsoft.com/en-gb/download/details.aspx?id=42497">http://www.microsoft.com/en-gb/download/details.aspx?id=42497</a></li> <li>• </li> </ul>
<b>Azure Migration Accelerator</b> "Move physical, VMware, AWS and Hyper-V virtual machines to Azure"	Microsoft	<ul style="list-style-type: none"> <li>• Migration Accelerator (MA), for Azure. Spawnd from the technology of our InMage acquisition the MA is designed to seamlessly migrate physical, VMware, Amazon Web Services and Microsoft Hyper-V workloads into Azure: <ul style="list-style-type: none"> <li>• Migration cutovers to Azure in as little as minutes</li> <li>• Automated asset discovery and migration</li> <li>• Auto-provisioned target Azure VM's</li> <li>• Near zero downtime and data loss</li> <li>• Multi-tier application support</li> <li>• Automated networking reconfiguration</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://azure.microsoft.com/en-us/features/migration-accelerator/">http://azure.microsoft.com/en-us/features/migration-accelerator/</a></li> <li>• AMM prerequisites and support matrix</li> <li>• AMM Configuration - <a href="#">ports and protocols</a>.</li> <li>• <a href="#">Common issues and troubleshooting steps &amp; FAQ</a>.</li> <li>• For issues, contact: <a href="mailto:mmasupport@microsoft.com">mmasupport@microsoft.com</a></li> </ul>
<b>Azure Websites Migration Assistant</b> "Move Web sites to Azure"	Microsoft	<ul style="list-style-type: none"> <li>• Azure Websites Migration Assistant will analyze your IIS installation and identify which sites can be migrated to the cloud, highlighting any elements that cannot be migrated or are unsupported on the platform.</li> <li>• After the installation has been analyzed, the Migration Assistant will also create the websites and databases required to support your sites. It then moves on to migrating your configuration and content over to the newly created websites and databases in Azure.</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://azure.microsoft.com/en-us/downloads/migration-assistant/?clcid=0x409">http://azure.microsoft.com/en-us/downloads/migration-assistant/?clcid=0x409</a></li> </ul>
<b>Vision Solutions Double Take</b> "Convert VMware to Hyper-V and VMWare to Azure"	Vision Solutions	<ul style="list-style-type: none"> <li>• Double take Move tool from Vision can migrate VMware to Hyper-V and VMware to Azure.</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://www.visionsolutions.com/Products/DT-Move.aspx">http://www.visionsolutions.com/Products/DT-Move.aspx</a></li> </ul>
<b>AWS to Microsoft Azure Migrator</b> "Move from Amazon VMs to Azure VMs"	Dot Net Solutions	<ul style="list-style-type: none"> <li>• Azure Migrator is a free tool, developed by DOT NET Solutions and it can pull in VMs to Azure from anywhere, including AWS, in a few simple and easy steps (see: <a href="http://miteshc.wordpress.com/2014/03/20/migratevm-fromaws-toazure/">http://miteshc.wordpress.com/2014/03/20/migratevm-fromaws-toazure/</a>)</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://www.azuremigrator.net/">http://www.azuremigrator.net/</a></li> </ul>
<b>Migration Assistant – Oracle to SQL Server or SQL Database on Azure</b>	Microsoft	<ul style="list-style-type: none"> <li>• Microsoft SQL Server Migration Assistant (SSMA) for Oracle is a tool to automate migration from Oracle database to SQL Server and Azure SQL DB</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://www.microsoft.com/en-us/download/details.aspx?id=43689">http://www.microsoft.com/en-us/download/details.aspx?id=43689</a></li> </ul>
<b>Migration Assistant – IBM DB2 to SQL Server or SQL Database on Azure</b>	Microsoft	<ul style="list-style-type: none"> <li>• Microsoft SQL Server Migration Assistant (SSMA) for DB2 is a tool to automate migration from DB2 databases to SQL Server and Azure SQL DB</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://www.microsoft.com/en-us/download/details.aspx?id=45296">http://www.microsoft.com/en-us/download/details.aspx?id=45296</a></li> </ul>
<b>Argentum</b> "Migrate Legacy Apps to PaaS"	Fedr8	<ul style="list-style-type: none"> <li>• You understand the value of cloud computing and would like to move your legacy applications to the Cloud, but you feel they are just too old, too complex and it is just too much risk to move them. Argentum is the fastest, most secure and cost effective way to get your complex legacy applications into your chosen cloud platform.</li> <li>• It helps you integrate, secure and optimise your applications into your chosen cloud, enabling you to reduce your expensive legacy operating costs, reduce risk and decrease time to value.</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://argentumanalytics.com/">http://argentumanalytics.com/</a></li> </ul>
<b>AzCopy</b> "Uploading / Downloading files to Azure Blob Storage"	Microsoft	<ul style="list-style-type: none"> <li>• One of the frequent requests we receive is for a simple way to upload or download files between Microsoft Azure Blob Storage and their local file system. We're pleased to release AzCopy (Beta Version), which is a command line utility which allows Microsoft Azure Storage customers to do just that. The utility is designed to simplify the task of transferring data in to and out of a Microsoft Azure Storage account. Customers can use this as a standalone tool or incorporate this utility in an existing application.</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="http://blogs.msdn.com/b/windowsazurestorage/archive/2012/12/03/azcopy-uploading-downloading-files-for-windows-azure-blobs.aspx">http://blogs.msdn.com/b/windowsazurestorage/archive/2012/12/03/azcopy-uploading-downloading-files-for-windows-azure-blobs.aspx</a></li> </ul>

<p><b>Azure Data Center Migration Solution (ADCMS)</b></p> <p><i>"Moving workloads between Azure Data Centres"</i></p>	<p>Persistent Systems</p>	<ul style="list-style-type: none"> <li>• The solution, aptly named Azure Data Center Migration Solution (ADCMS) and licensed under Apache v2.0, provides a highly flexible and extensible method of moving assets from one Azure data center to another. With a focus on atomicity, this utility is designed to handle interruptions and either start from where it left off or roll back.</li> <li>• ADCMS produces a JSON based template of your subscription configuration metadata (including affinity groups, networks, disks, availability sets, load balancers and cloud services) which can then be used to stand up a replica, or edited to produce a modified version. This methodology enables export, import and migration.</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="https://github.com/persistentsystems/adcms">https://github.com/persistentsystems/adcms</a></li> </ul>
--	---------------------------	--	---

## Appendix 3 – Which ISVs are using Azure?

Below are a few examples of the thousands of ISVs and CSVs that build their businesses on Microsoft Azure:

ISV	Web Site	Industry	ISV Type	Further Information
<b>Ad Coelum</b>	<a href="http://www.adcoelumtechnology.com/">http://www.adcoelumtechnology.com/</a>	Legal	Start Up	Ad Coelum vision is to create a more productive legal profession by evolving case & matter management utilising cloud, mobile and social technology. The journey starts with matter management and our Matter Management as a Service product, MatterMojo <a href="http://www.microsoft.com/en-gb/developers/articles/week04aug14/building-mattermojo-for-lawyers-using-the-microsoft-cloud">http://www.microsoft.com/en-gb/developers/articles/week04aug14/building-mattermojo-for-lawyers-using-the-microsoft-cloud</a>
<b>Cambridge Imaging</b>	<a href="http://www.cambridgeimaging.com/">http://www.cambridgeimaging.com/</a>	Cross Industry	Regional ISV	Secure video hosting for archiving, managing & streaming video, images & audio via your own customisable website. <a href="http://www.cambridgeimaging.com/technical-partner-windows-azure">http://www.cambridgeimaging.com/technical-partner-windows-azure</a>
<b>Capita</b>	<a href="http://www.capita-sims.co.uk/">http://www.capita-sims.co.uk/</a>	Education	Regional ISV	Thousands of schools will now be able to access their SIMS management information system (MIS) from wherever they choose using the Microsoft Azure platform, following an agreement between Microsoft and Capita SIMS, announced today at Bett 2015 in London. <a href="http://www.capita-sims.co.uk/partnership-microsoft-gives-thousands-schools-access-sims-virtually-any-device">http://www.capita-sims.co.uk/partnership-microsoft-gives-thousands-schools-access-sims-virtually-any-device</a>
<b>EMIS</b>	<a href="http://www.emis-online.com/">http://www.emis-online.com/</a>	Healthcare	Regional ISV	EMIS Group, a leading supplier of healthcare software for general practitioners (GPs) in the United Kingdom (U.K.), wanted a more scalable and cost-effective web platform for its leading health website. Since migrating it to Windows Azure and making it accessible through Windows Phone and Windows 8, monthly visits have surged by 71 per cent to 6 million. <a href="http://www.microsoft.com/casestudies/Microsoft-Azure/EMIS/Cloud-Platform-Gives-U.K.-Patients-and-GPs-Mobile-Access-to-Healthcare-Information/71000001693">http://www.microsoft.com/casestudies/Microsoft-Azure/EMIS/Cloud-Platform-Gives-U.K.-Patients-and-GPs-Mobile-Access-to-Healthcare-Information/71000001693</a>
<b>IEG4</b>	<a href="http://www.ieg4.com/">http://www.ieg4.com/</a>	Public Sector	Regional ISV	IEG4 wanted to help local authorities automate paper-based processes to improve citizen access to services. The firm created online forms and used Windows Azure to host them. Now, authorities process claims 80 percent faster and reduce printing and IT costs. Claimants receive benefits faster, and because the solution helps IEG4 rapidly deploy forms, the firm can implement its forms for more authorities with fewer resources. <a href="http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?CaseStudyID=4000010802">http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?CaseStudyID=4000010802</a>
<b>Iris</b>	<a href="http://www.iris.co.uk/">http://www.iris.co.uk/</a>	Professional Services	Regional ISV	IRIS OpenPayslips is a paperless solution, eliminating all payslip printing and distribution costs, which in turn reduces a company's carbon footprint. Once employers or payroll bureaus have completed payroll, payslips are encrypted and published to a secure online portal for employees <a href="http://www.iris.co.uk/insight/news/2013/iris-launches-cloud-based-payslip-delivery-solution-iris-openpayslips/">http://www.iris.co.uk/insight/news/2013/iris-launches-cloud-based-payslip-delivery-solution-iris-openpayslips/</a>
<b>Milliman</b>	<a href="http://uk.milliman.com/">http://uk.milliman.com/</a>	Finance	Regional ISV	Milliman's MG-ALFA financial modelling solution and actuarial projection system models both insurance liabilities and assets, and offers full ALM functionality for integrated financial projections <a href="http://www.microsoft.com/enterprise/industry/financial-services/insurance/articles/milliman-mg-alfa-compute-for-microsoft-azure.aspx#fbid=revtGCdDOMq">http://www.microsoft.com/enterprise/industry/financial-services/insurance/articles/milliman-mg-alfa-compute-for-microsoft-azure.aspx#fbid=revtGCdDOMq</a>
<b>RDT</b>	<a href="http://www.rdt.co.uk/">http://www.rdt.co.uk/</a>	Finance	Regional ISV	RDT's Rating Hub gives insurers the power to manage their rates centrally, distribute them in a single stroke and generate more than 700 quotes a second. <a href="http://www.rdt.co.uk/rating-hub/benefits/">http://www.rdt.co.uk/rating-hub/benefits/</a>
<b>Sage</b>	<a href="http://www.sage.com">http://www.sage.com</a>	Cross Industry	Global ISV	Sage, a leading global supplier of enterprise resource planning (ERP) and business solutions, wanted a new, flexible delivery model that could be easily customized for individual customers and markets, while ensuring high levels of performance. To meet its goals, the company decided to migrate its mission-critical ERP offerings for small businesses to the Microsoft Azure platform. By implementing cloud-based services, the company has cut deployment time from months to minutes, reduced IT costs, improved scalability, and increased access to ERP tools and data for employees at all levels of the organization. <a href="http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=710000004539">http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?casestudyid=710000004539</a>
<b>Temenos</b>	<a href="http://www.temenos.com/">http://www.temenos.com/</a>	Finance	Global ISV	Temenos, wanted to build a cloud-based version of its on-premises T24 core banking application to give customers functionality in the cloud. By developing its new version on the Microsoft Azure platform, Temenos can offer cloud banking capabilities to companies that have traditionally used on-premises solutions, and it can help them meet strict security and compliance requirements. <a href="https://customers.microsoft.com/Pages/CustomerStory.aspx?recid=9321">https://customers.microsoft.com/Pages/CustomerStory.aspx?recid=9321</a>

## Appendix 4 – Third Party Solutions

Attached are some common technologies deployed with Microsoft Azure. Some of these are available to deploy via the Microsoft Azure Marketplace: <http://azure.microsoft.com/en-us/marketplace/>

	SAP	Oracle	IBM
Landing Page	<a href="http://azure.microsoft.com/sap/">http://azure.microsoft.com/sap/</a>	<a href="http://azure.microsoft.com/oracle/">http://azure.microsoft.com/oracle/</a>	<a href="http://news.microsoft.com/2014/10/22/msibmpr/">http://news.microsoft.com/2014/10/22/msibmpr/</a>
Product Included	<ul style="list-style-type: none"> <li>SAP Business Suite Software (Windows)</li> <li>SAP Business All-in-One (Windows)</li> <li>SAP NetWeaver Application Server ABAP (Windows)</li> <li>SAP HANA Developer Edition (SUSE, Linux)</li> </ul>	<ul style="list-style-type: none"> <li>For the latest list of "License included" images see:</li> <li><a href="http://msdn.microsoft.com/en-us/library/dn439770.aspx">http://msdn.microsoft.com/en-us/library/dn439770.aspx</a></li> </ul>	<ul style="list-style-type: none"> <li>For the latest list of BYOL:           <ul style="list-style-type: none"> <li><a href="http://www-01.ibm.com/software/passportadvantage/licensing_for_Microsoft_Azure.html#byositable">http://www-01.ibm.com/software/passportadvantage/licensing_for_Microsoft_Azure.html#byositable</a></li> </ul> </li> </ul>
3rd Party Licence Model	<ul style="list-style-type: none"> <li>Customers who have SAP licenses can use them to deploy SAP software in Microsoft Azure.</li> </ul>	<ul style="list-style-type: none"> <li>Licensing Oracle Software in the Cloud Computing Environments           <ul style="list-style-type: none"> <li><a href="http://www.oracle.com/us/corporate/pricing/cloud-licensing-070579.pdf">http://www.oracle.com/us/corporate/pricing/cloud-licensing-070579.pdf</a></li> </ul> </li> <li><b>Use a license-included VM image - Microsoft provides pre-configured, Windows Server based VM images</b> that include licenses for Oracle Database and/or Oracle WebLogic Server, and images that include the Java Development Kit.</li> <li><b>Bring your own license, use a pre-configured VM - Oracle offers pre-configured Oracle Linux images</b> with Oracle Database and/or Oracle WebLogic Server to make it simpler for you to get started.</li> <li><b>Bring your own license, build your own VM</b> - Start a Windows Server or Oracle Linux virtual machine; install and configure the additional Oracle software yourself.</li> </ul>	<ul style="list-style-type: none"> <li>IBM - Bring Your Own Software and License (BYOSL) and Bring Your Own License (BYOL) - Licensing terms:           <ul style="list-style-type: none"> <li><a href="http://www-01.ibm.com/software/passportadvantage/licensing_for_Microsoft_Azure.html">http://www-01.ibm.com/software/passportadvantage/licensing_for_Microsoft_Azure.html</a></li> </ul> </li> </ul>
Pricing	<ul style="list-style-type: none"> <li>Customers will consume and pay for the underlying Microsoft Azure services as with any other deployment.</li> </ul>	<ul style="list-style-type: none"> <li><a href="http://azure.microsoft.com/en-us/pricing/details/virtual-machines/#oracle-software">http://azure.microsoft.com/en-us/pricing/details/virtual-machines/#oracle-software</a></li> <li>Customers will consume and pay for the underlying Microsoft Azure services as with any other deployment.</li> <li>Free trial, MSDN, BizSpark, and Microsoft Partner Network member benefits (monetary credits) don't apply to license-included Oracle images, which are billed separately</li> </ul>	<ul style="list-style-type: none"> <li>Customers will consume and pay for the underlying Microsoft Azure services as with any other deployment.</li> </ul>
Support	<ul style="list-style-type: none"> <li>SAP will provide support for SAP products and services,</li> <li>Microsoft will provide support for Microsoft products and services, including Microsoft Azure platform services</li> <li>For SAP HANA Developer Edition, support is provided through <a href="#">community support</a>.</li> </ul>	<ul style="list-style-type: none"> <li>For customers who bring their own Oracle licenses and are on support, Oracle will deliver support directly to the customers running Oracle software on Windows Server Hyper-V and Azure.</li> <li>For the "license included" offerings, click here for more details:           <ul style="list-style-type: none"> <li><a href="http://dl.msopentech.com/license/oracle/support-EN.html">http://dl.msopentech.com/license/oracle/support-EN.html</a></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>For customers who bring their own IBM licenses and are on support, IBM will deliver support directly to the customers running IBM software</li> </ul>
Further Information	<ul style="list-style-type: none"> <li>Running SAP Applications on the Azure:</li> <li><a href="http://blogs.msdn.com/b/saponsqlserver/">http://blogs.msdn.com/b/saponsqlserver/</a></li> <li>SAP on Microsoft Azure</li> <li><a href="http://scn.sap.com/docs/DOC-56602">http://scn.sap.com/docs/DOC-56602</a></li> <li>SAP Notes for Windows and Linux in Public Cloud (IaaS) Environments</li> <li><a href="http://scn.sap.com/docs/DOC-56601">http://scn.sap.com/docs/DOC-56601</a></li> <li>Frequently Asked Questions: Microsoft Azure</li> <li><a href="http://scn.sap.com/docs/DOC-56406">http://scn.sap.com/docs/DOC-56406</a></li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Oracle's Landing page</a></li> <li><a href="#">Oracle VM Pricing</a></li> <li><a href="#">Oracle's Licensing mobility page</a></li> </ul>	<ul style="list-style-type: none"> <li><a href="http://msopentech.com/blog/2014/11/04/ibm-websphere-mq-db2-now-microsoft-azure/">http://msopentech.com/blog/2014/11/04/ibm-websphere-mq-db2-now-microsoft-azure/</a></li> </ul>

# Appendix 5 – Moving to the Cloud

- **Why are people moving to the cloud?**

- There are 3 major reasons why people are moving to the cloud:

<b>QUICK "Quick &amp; Easy Deployment"</b>	<ul style="list-style-type: none"> <li>• No need to wait for deployment</li> <li>• Shorter development cycles</li> <li>• Fast delivery of business value</li> </ul>
<b>SCALE "Elastic Capacity"</b>	<ul style="list-style-type: none"> <li>• No need to buy physical infrastructure</li> <li>• Unexpected load is easily managed</li> <li>• Global Coverage with unprecedented scale</li> </ul>
<b>ECONOMICS "Pay only for what you use"</b>	<ul style="list-style-type: none"> <li>• No upfront costs</li> <li>• No long-term commitments</li> <li>• No wasted, under-used capacity</li> </ul>
<b>VALUE "Enable new business value scenarios"</b>	<ul style="list-style-type: none"> <li>• Engage customers with Web/Mobile apps</li> <li>• Unlock insights with Big Data &amp; ML</li> <li>• Create your own Internet of Things (IoT)</li> </ul>

- **What Business Resources are there for Moving to the cloud:**

- Channel 9 ISV Business Resources:
  - <http://channel9.msdn.com/Blogs/ISV-business-resources>
- How SaaS changes an ISV Business Model:
  - <http://channel9.msdn.com/Series/How-SaaS-Changes-an-ISV-s-Business-Model>
- How ISVs Can Build Business Partnerships for Growth
  - <http://channel9.msdn.com/Blogs/how-ISVs-can-Build-Business-Partnerships-for-Growth>

- **What part of my application or service do I move to the cloud?**

- We have seen a huge increase is Software companies / ISVs moving applications and services to the cloud. Where to start is often a hurdle in itself, and which one is right for you, is largely dependent on:
  - Data requirements
  - Compliance requirements
  - Your Customer Acceptance
  - Economics of running your solution into the cloud
  - Time, costs and resources
- Here is a list of the approaches we have seen to date::

	<b>Approach</b>	<b>What is it?</b>
1.	<b>Lift and Shift to IaaS</b>	<ul style="list-style-type: none"> <li>• Move an existing service or application running in a virtualized environment to Microsoft Azure IaaS.</li> </ul>

<b>2.</b>	<b>Move a specific geographic workload to Azure</b>	<ul style="list-style-type: none"> <li>• You may have existing workloads that are able to run in your own DC, or 3<sup>rd</sup> party DC, that are limited by the latency issues related to geographically dispersed customers.</li> <li>• Moving certain geographies to Microsoft Azure allows you to expand your global footprint to service these clients better.</li> </ul>
<b>3.</b>	<b>Burst High workloads to Azure</b>	<ul style="list-style-type: none"> <li>• Burst your key compute workloads to Microsoft Azure to benefit from scalable and economic compute power</li> </ul>
<b>4.</b>	<b>Move a functional requirement to Azure</b>	<ul style="list-style-type: none"> <li>• Move a specific functional requirement to Azure. For example, you could move your unstructured data requirements to Microsoft Azure "storage as a service".</li> </ul>
<b>5.</b>	<b>Move a product module to Microsoft Azure</b>	<ul style="list-style-type: none"> <li>• Re-platform a module of application to test client needs, wants, and to gain experience of running a cloud service</li> </ul>
<b>6.</b>	<b>Re-Platform to PaaS</b>	<ul style="list-style-type: none"> <li>• Re-platform the entire application to PaaS to benefit from full cloud computing capabilities</li> </ul>

- **Impact on Moving to the cloud on your IT (Application Management, Incident Management, Monitoring and Control and Infrastructure Management)?**

- Once you make a decision to move to the cloud, you need to understand the potential implications on how you operate the service with your client:

	<b>What is it?</b>
<b>What Remains?</b>	<ul style="list-style-type: none"> <li>• User Access, User Provisioning, Diagnosing ACL issues</li> <li>• Data integrity and Lifecycle</li> <li>• Regulatory requirements</li> <li>• Compliance</li> <li>• Monitoring</li> <li>• Capacity decisions</li> </ul>
<b>NEW Accountabilities</b>	<ul style="list-style-type: none"> <li>• Bill management / reconciliation / audit</li> <li>• Charge-back</li> <li>• Budget management</li> <li>• Single Sign-On</li> <li>• Deployment, Versioning and environment management</li> <li>• Training</li> </ul>

- **What do I need to think about before going Live on Microsoft Azure?**

1. Do NOT use limited offers (e.g. MSDN Subscription/Trial Subscriptions) for Production
2. Use Invoice payment instead of Automatic credit card payments for Production (Control & Manage Payment)
3. Have you put a spend limit in the system? If so, you need to review it.
4. As you move from test and dev to production, check the security / identity access and setup

5. Ensure the email ID's you registered for Azure is correct and monitored regularly
6. Add a Second person to the Microsoft Azure invoice notifications:
  - Login to the following website using account administrator's credentials:  
<https://account.windowsazure.com>
  - Click the "Profile" tab and Click "Edit details."
  - Enter the new email ID under the "Email" field.
  - Click "next" to save the changes.
7. Some services on Azure have hard boundaries (e.g. Caching) so ensure you do the correct sizing up front
8. If you are expecting to see a large surge on launch or you are expecting to scale above 20 instances, pre-notify the Azure support desk
9. Microsoft Azure Technical support is not included in the price of Microsoft Azure. Please ensure you have a Microsoft Azure support plan in place prior to going Live with an application or service
10. It helps the support teams if partners make sure their "company name" field is filled out in their subscription profile so that we can track usage during critical periods.
11. Ensure you know how to raise support calls and that you have the correct support agreement in place. NB. Without any logged support call we CANNOT escalate and we CANNOT Monitor/Analyse the issue
12. Ensure you understand the Azure SLA, and how your architecture improves or impacts the SLA