



Talking Point
Discussion Document



in association



Get going with Microsoft Azure Stack Hub

Accelerating adoption of hybrid
cloud

Freeform Dynamics, 2020

Getting to the Azure Stack Hub start line

In a previous discussion document^[1], we introduced Microsoft Azure Stack Hub, an extension of Azure, Microsoft's public cloud platform. You might want to read it if you're still unsure as to what it offers. But in short, Azure Stack Hub is Azure, only in your data center.

Before we dive in, let's clarify a few things. First, Azure Stack Hub isn't a virtualization replacement product. Second, it's not a DIY infrastructure sandbox. And third, it's not an 'install and forget' product – it must be managed and maintained to remain consistent with Azure, as that's where the business value lies.

Every organism, including your business, requires additional energy to maintain itself. However, the amount of 'energy' required to maintain your hybrid IT environment could be reduced if you include Azure Stack Hub as part of the mix. This is because the Azure Stack Hub is cloud, and you already understand the IT benefits cloud services like this have to offer.

On your marks...

If you're familiar with Azure, you know there's a lot going off here. Getting to know what Azure Stack Hub can and can't do is an important first step in your evaluation, so this will inevitably require some hands-on experience. Microsoft's Azure Stack Hub hardware partners will be able to help you here, but to kick the tires and get you started you can build a single-node POC deployment yourself using the Azure Stack Development Kit (ASDK). You'll need Windows 2012 R2 certified hardware with a minimum spec of 96 GB RAM, 12 core CPU, and 5 x 140 GB SSD/HDD.

You'll already have a general sense of what you want from Azure Stack if you're an existing Azure customer, but it's still important to give the matter some detailed consideration. This means business and IT managers sitting down with developers to establish a clear vision of the applications they want to build and deploy. An architect is often best placed to lead the discussion, with input from business, development and operations teams.

Azure Stack Hub provides out-of-the-box IaaS features, including support for Docker and Kubernetes (Windows and Linux containers), advanced networking and load balancing, and storage (Blob, Table and Queue). However, PaaS is where things start to get interesting, with Azure App Service for web and mobile application services; Azure Functions for serverless computing; Azure Service Fabric for building scalable distributed apps; Azure Container Service; and Cloud Foundry, the open source multi-cloud application platform. You might not use all these capabilities initially, but it's worth knowing what's there so that you can focus your efforts and priorities.

As with any new IT product, it's easy to get distracted by the technology, so choose a business problem that looks well-suited to Azure Stack Hub before 'opening the box'. For more on this, you might want to read our more in-depth paper: *Accelerate to hybrid*

cloud^[2], as this explores Azure Stack Hub use cases and adoption scenarios in more detail.

Get set...

Before you deploy Azure Stack Hub in your own data center, it's worth considering how this might change the perception of the IT department (or at least the team responsible for the new environment within it), as it now becomes a 'provider' or 'cloud operator' for the company. You might not be aiming for this explicitly, but it will inevitably signal the direction of travel, so you need to think through what this means.

As a provider, you manage the offers, plans, services, quotas and pricing to provide resources to the 'tenant'. But who is the tenant from a business perspective? Things can get complicated when service models change, so discuss this with business peers, as well as potential 'customers' within IT itself, such as development and application teams.

The business, and/or its customers, will ultimately consume Azure Stack Hub-based IT services, but developers and IT teams will want to provision, monitor and manage services that they have subscribed to, such as web apps, storage and virtual machines. This will make perfect sense if you're part of a large enterprise IT department, but others might have to adjust to the concept of a service catalog approach.

Azure Stack Hub integrated systems can only be obtained through authorized partners (Dell EMC, HPE, Fujitsu, etc.), so you'll need to engage with one of these firms if you want to use Azure Stack Hub to run production applications and workloads in your data center. Alternatively, you might decide to go down the managed service provider route, or work with a hosting partner, in which case the support and services relationship will be somewhat different, but the IT business benefits should be the same.

Steady...

Azure Stack Hub is about increasing flexibility, including financial flexibility, so there are options and choices to consider here. The Azure Stack Hub ecosystem is still evolving, but the basic financial model is relatively straightforward: You purchase Azure Stack Hub hardware (and hardware support) directly from your preferred hardware supplier, and you purchase Azure services and support from Microsoft; this could be direct from Microsoft, via your partner or included in your EA. The service fees should be lower than Azure prices because you take on the hardware and operating costs.

A minimal deployment of an Azure Stack Hub integrated system contains four servers (nodes) plus a set of network switches. As an example, a 12-node system can support 400+ general-purpose compute VMs. Microsoft provides a set of pre-purchase configuration worksheets to help with system sizing, but you'll want to sit down and have a discussion with your hardware supplier(s) just like you do today for other data center systems. Likewise, you'll have to discuss the usual power, cooling and rack requirements too. This is very much 'business as usual' for IT.

If you've been around for a while, you might be getting a bit of déjà vu, as Azure Stack Hub integrated systems have similar characteristics to mainframe and midrange systems. This is because once plumbed-in to your data center, it's largely a hands-off system that your ops team just monitors and manages. It's Microsoft's job, backed by its partners of course, to handle updates to Azure Stack Hub, including firmware. However, it's your system, so you can delay these updates (up to 6 months) and choose when they get installed.

Go!

Azure Stack Hub collects usage data for used resources and forwards it to Azure Commerce. Azure Commerce then bills you for Azure Stack Hub usage in the same way as it would bill you for Azure usage. You can export usage data to your own billing system, so consider how this might help with budget control and charge-back within the business.

There are two consumption models for Azure Stack Hub. The first of these is a pay-as-you-use model, where usage data is forwarded to Microsoft's billing system which then charges you for usage, in much the same way as Azure. In the alternative, capacity model approach, you license all the physical cores in the system and pay a set charge per core. This model could be appropriate for disconnected systems or those where predictable billing is needed. This might be familiar stuff, but the complexity means it's worth discussing options with a Microsoft Licensing Solutions Provider to get the most out of what you already pay for.

All-in-all, Azure Stack Hub will feel comfortable to most enterprise IT departments, especially those familiar with Microsoft's software-defined data center strategy (Windows Server, Hyper-V, Storage Spaces Direct, and System Center), and if you're already using Azure, Azure Stack Hub could be a natural progression.

Further Reading

1. **Consistency is key with hybrid cloud:** Can Microsoft Azure Stack Hub negate your public cloud barriers?
2. **Accelerate to hybrid cloud:** FUJITSU Integrated System PRIMEFLEX for Microsoft Azure Stack Hub brings cloud into the data center

About Freeform Dynamics

Freeform Dynamics is an IT industry analyst firm. Through our research and insights, we help busy IT and business professionals get up to speed on the latest technology developments and make better-informed investment decisions.

For more information, and access to our library of free research, please visit www.freeformdynamics.com.

About Fujitsu

Fujitsu is the leading Japanese information and communication technology (ICT) company offering a full range of technology products, solutions and services. Approximately 140,000 Fujitsu people support customers in more than 100 countries. We use our experience and the power of ICT to shape the future of society with our customers.

For more information, please see: www.fujitsu.com.

Terms of Use

This document was originally published in 2018. Logos and product names were updated in 2020 though the substance of the content was not materially changed. This document may be freely duplicated and distributed in its entirety on an individual one to one basis, either electronically or in hard copy form. It may not, however, be disassembled or modified in any way as part of the duplication process. Hosting of the entire report for download and/or mass distribution by any means is prohibited unless express permission is obtained from Freeform Dynamics Ltd or Fujitsu. The contents contained herein are provided for your general information and use only, and neither Freeform Dynamics Ltd nor any third party provide any warranty or guarantee as to its suitability for any particular purpose.