Azure AKS master node architecture

Asked 6 years, 1 month ago Modified 6 years, 1 month ago

Viewed 2k times Part of Microsoft Azure Collective

2

We are currently evaluating various Kubernetes aaS providers and Azure AKS was looking like a front runner. However, recently some information has emerged that the master and etcd nodes are not run in a HA configuration?

Is this correct? I find it hard to believe! There is nothing on their website with regard to the architecture of AKS which is always a worry but as they provide the master nodes as a service I don't understand how they would leave such a gaping hole?

Does any one have any more in depth information regarding the AKS architecture?

azure kubernetes azure-aks

Share

Improve this question

Follow

asked Nov 7, 2018 at 11:19

Robert Young

65 ● 1 ● 6

This doesn't fill me with a whole lot of confidence: As a free service, AKS does not offer a financially-backed service level

agreement. We will strive to attain at least 99.5% availability for the Kubernetes API server. The availability of the agent nodes in your cluster is covered by the Virtual Machines SLA. Please see the Virtual Machines SLA for more details. (Taken from: azure.microsoft.com/en-us/support/legal/sla/kubernetes-service/…) – Robert Young Nov 7, 2018 at 11:20

its probably HA (as they claim its multitenant). but there can be no SLA as the service isfree – 4c74356b41 Nov 7, 2018 at 11:30

3 Answers

Sorted by: Highest score (default)

3

As most of the information about AKS have been provided above I just wanted to relate to this sentence:

> We are currently evaluating various Kubernetes aaS providers and Azure AKS was looking like a front runner.

I am not here to tell you which Cloud provider is the best, as there is no simple answer to that question. However what I can do is share with you the resources that I have used for such cases.

Here you can find a great comparison not only as an article but also as an excel sheet that shows major differences and possibilities of the biggest Kubernetes aaS providers.

One thing for sure, AWS is the biggest of them all and it has a pretty big number of people involved into developing and upgrading the solutions related to Kubernetes all around the Internet so you can find a good number of solutions and resources.

Microsoft from what I know is also very active and their goal is to make the experience better and better, but quoting the article it seems there are still some areas that should be improved.

Google Cloud Platform. As we know Kubernetes was born in Google, and I think that Google made its goal to have the best quality Kubernetes experience on their platform because of that. I have seen a lot of materials and there is a lot of buzz around the world made by Google around the GKE - conferences, youtube videos, blog posts, solid introductions to k8s etc.
Quoting the article it seems like they are doing it well.
Anyway, this is my opinion, based also on hands-on experience and the linked article itself, which I recommend you to check.

Share Improve this answer

Follow

answered Nov 8, 2018 at 11:34

aurelius

3,551 ● 1 ● 14 ● 22

Yes, so this comparison confirms what we have been told - AKS 'Control plane HA - NO' – Robert Young Nov 8, 2018 at 15:45

3

The worker nodes are in an Availability set meaning they are spread across update domains and fault domains. In a service level agreement (SLA), the provider agrees to reimburse the customer for the cost of the service if the published service level isn't met. Since AKS itself is free, there is no cost available to reimburse and thus no formal SLA. However, AKS seeks to maintain availability of at least 99.5% for the Kubernetes API server. (source)

Share Improve this answer

Follow

answered Nov 7, 2018 at 13:47

Ken W - Zero Networks

3,804 ● 1 ● 15 ● 20

> Thanks for the reply. I understand the worker nodes will be in a HA configuration, however we have had some information that the master nodes and more worryingly etcd nodes are not. I get that Azure are providing this as a service but it would be reassuring to at least see an architecture of how this is working under the hood as I can't really base a critical infrastructure decision on the fact MS have probably / hopefully got it covered (with no official SLA). Basically, I'd just like my statement above to be proved incorrect!
>
> – Robert Young Nov 7, 2018 at 15:25

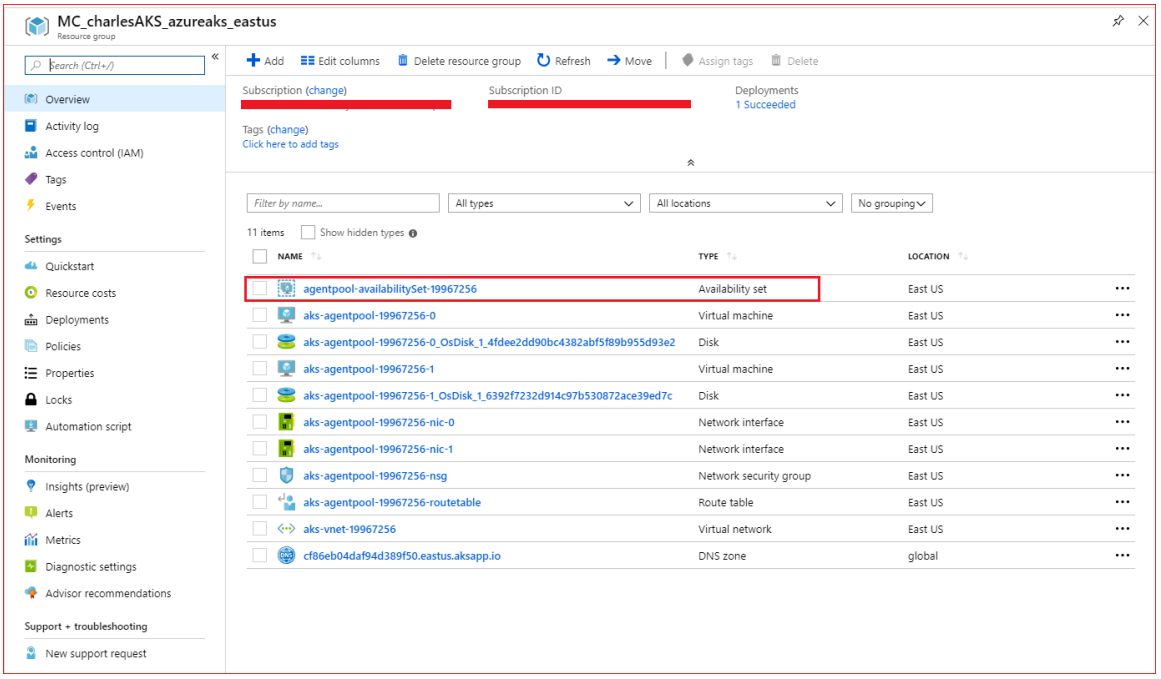
0

For your issue, it's impossible for Azure to leave AKS in an environment without High Availability.

AKS is based on ACS-Engine. But there are some differences. In AKS, the Kubernetes master components are part of the managed service provided by Microsoft. And you cannot see it in your AKS cluster. It's no cost. To

run your applications and support services, you need a Kubernetes node and you can decide how many nodes in the cluster. For nodes, they are the Azure virtual machines and created in the Azure Availability Set. So they have the High Availability. You can get more details here.

The AKS cluster just like this:



Share Improve this answer

Follow

answered Nov 8, 2018 at 2:55

Charles Xu

31.3k ● 2 ● 24 ● 42