

AE with Secure Enclaves - Region enablement for DC series

Last updated by | Vitor Tomaz | Jun 8, 2022 at 5:34 AM PDT



Issue

You receive a customer request for DC series DB capacity ask for a specific Azure Region.

Selecting DC-series for your database places it on the hardware equipped with Intel SGX, which is a **prerequisite for enabling Always Encrypted with secure enclaves**.

Currently there are limited number of regions that support creating your database on DC series hardware. See Details below

Investigation /Analysis

In Azure SQL Database, Always Encrypted with secure enclaves uses Intel Software Guard Extensions ([Intel SGX enclaves](#) ). Intel SGX is a hardware-based trusted execution environment technology supported in databases that use the [DC-series](#)  hardware configuration.

Selecting DC-series for your database places it on the hardware equipped with Intel SGX, which is a **prerequisite for enabling Always Encrypted with secure enclaves**.

The Feature was announced public preview earlier this year - see blog [here](#) 

Currently there are limited number of regions that support creating your database on DC series hardware.

Currently we support following 7 regions worldwide:-

1. East US 1
2. West US 1
3. UK South
4. Canada East
5. Canada Central
6. West Europe
7. North Europe

For the latest list check here: <https://docs.microsoft.com/en-us/azure/azure-sql/database/service-tiers-sql-database-vcare?#dc-series-1> 

Mitigation

When we receive a customer request, we should ask them about the number and sizes of databases (#vcores, performance tier) they are willing to commit to provision in the region.

- Please loop in jaszymas@microsoft.com , elnatad@microsoft.com , Rajat.Jain@microsoft.com & sojaga@microsoft.com on any DC series Hardware requests you may receive after collecting the below

information.

Please provide the following information

1. **Requested region**
2. **Expected Consumption (#Vcores):**
3. **Expected Number of Databases & Performance Tiers**


After you submit your request, it will be reviewed by our Team. You will be contacted with an answer based on the information you provided.

Currently DC series hardware for your database is available in the following regions :

<https://docs.microsoft.com/en-us/azure/azure-sql/database/service-tiers-sql-database-vcore?#dc-series> 

Additional Info for CSS (not to be passed to customers)

Decision on whether we can add support of **DC-series DB** in any other region depends on various aspects such as SGX-enabled hardware availability, COGS, billing meter, portal etc.

- Regions that have the SGX hardware we use today (the regions where the [DCsv2 VM size is available](#):  Azure Products by Region | Microsoft Azure). To enable DC-series in such regions we need to see customer demand above certain threshold.
- When we receive a customer request, we should ask them about the number and sizes of databases (#vcores, performance tier) they are willing to commit to provision in the region. That info will help us determine if/when it's cost-effective for us to support a region.
- In either case, we ask CSS involves us when you get customer requests for a new region support, so that we can jointly evaluate how to respond.

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