Citus Cloud to Hyperscale Citus Migration

Last updated by | Abhishek Reddy Kumbham | Mar 2, 2022 at 12:15 PM PST

Issue

Customers reach us to migrate **Citus Cloud data** to **Azure Hyperscale** There are approximately 55 existing AWS customers that will be migrating from AWS Citus to Azure Hyperscale Citus over the next 3 to 6 months. Our intention is to migrate the clients one at a time. The Product Group has already discussed these changes with the customers and we would like to see a smooth transition.

Info needed to collect from customer:

1. please make sure send the below text and get customer consent:

"Thank you for your interest in Hyperscale (Citus). In order to migrate your data from Citus Cloud, currently in AWS Cloud, to Hyperscale (Citus) in Azure, Microsoft asks for your consent to initiate that migration. Can you please respond to this email with your express consent? Without your express consent we cannot access your data to migrate it to Azure."

Please make sure the consent was saved in the ticket.

2. In addition to above consent, please also get following info in **separate** email:

- Can we know the Formation name in AWS?
- Can you share the Formation ID in AWS?
- What is the target subscription ID in Azure? Please also create or provide the target resource group.
- Please register Microsoft.DBforPostgreSQL if it has not been done https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/resource-providers-and-types#register-resource-provider-1
- Which Azure region will you migrate to? As of Oct. 20, Citus Cloud migrations can target East US, East US 2, Germany West Central, Japan East, Japan West, Korea Central, UK South, West Europe, and West US 2.
- If you want to change the vCore, you can consider to change the vCore in AWS first.
- This docs page that shows what Pg version and Citus version is supported in Hyperscale cluster. If you are using the version that we do not support, please upgrade to higher versions in Citus Cloud before we can kick off the migration.

Next steps

Once collected all the required info from customer, CSS then submit ICM with above consent along with all above info using the template we have.

Owning Team: Azure Database for PostgreSQL- Hyperscale(Citus)/Migration

PG will start the migration. We do not have the estimate migration time. But customer can continue using their existing AWS instance. Once it catches up and ready for cut over, PG will let CSS know and provide the new endpoint.

Then CSS should provide new endpoint to customer and ask when customer wants to cut over. Customer should test connectivity to the new endpoint before the cut over time. Customer will not be able to see the new

instance in the Azure portal before cut over.

CSS communicates the cut over time to PG.

Information about migrating Citus Cloud followers (equivalent of Azure read replicas)

If you (the customer) need to migrate a Citus Cloud follower formation to Azure (in Azure the term is “read replica”) the following explains the process and some concepts.

Once the Azure server group corresponding to your primary formation is promoted, you will cut your production traffic over to the new Azure server group. After promotion the new Server Group also appears in the Azure Portal and you can create a Read Replica (but only in step 2 below). Read replica readiness requires:

1. The newly promoted primary Server Group’s nodes must upload base backups to blob storage.
2. You will only be able to create a read replica at this time.
3. The newly provisioned Read Replica nodes must download the backups and replay WAL.

The whole process for replica readiness (steps 1-3) requires ~1 hour **per 100GB of data on disk** (we have to do a test run to give you more accurate numbers), and only then will you be able to cut over your follower/read-only traffic.

During the Azure replica creation time you therefore should continue to run your follower/read-only workload against the Citus Cloud follower formation, and be aware that the data will be stale because Citus Cloud primary/parent formation is no longer receiving writes. This situation is identical to what happens when you perform upgrades to a primary/parent formations in Citus Cloud (the existing follower nodes become stale, new base backups are uploaded and then new follower nodes are prepared and when ready old follower nodes fail over).

Here are the Azure docs for creating read replicas: https://docs.microsoft.com/en-us/azure/postgresql/howto-hyperscale-read-replicas-portal