Server creation operation taking too long or failed

Last updated by | Abhishek Reddy Kumbham | Jun 3, 2022 at 1:46 PM PDT

Issue

Provisioning PostgreSQL or MySQL resource taking too long or failed.

Issue Summary

This scenario happens when customer try to create using Terraform or ARM template.

For failed operation, customer can observe from JSON file below error

```
{
    "status": "Failed",
    "error": {
        "code": "ServerNameAlreadyExists",
        "message": "Specified server name is already used."
    }
}
```

For long running operation, customer experience terraform times out after an hour and the Azure portal states that the database is still provisioning when navigating directly to the resource.

Investigation/Analysis

From ARM operation in ASC we observe following:

- Error for failed operation

- Error for provisioning taking too long or timedout

▼ Microsoft.DBforPostgreSQL

Microsoft.DBforPostgreS...	❌ Failed	0823dfa5-e5f9-40e1-d514-64ce008c1984	N/A	singletenantazure-sandbox	singletenantazure-sandbox	📋
Microsoft.DBforPostgreS...	❌ Failed	4ee0c20d-ed89-7ee3-60c9-659b881246dd	N/A	singletenantazure-sandbox	singletenantazure-sandbox	📋
Microsoft.DBforPostgreS...	❌ Failed	b8f15282-3c2d-70e6-3a60-8047bfdcaed8	N/A	singletenantazure-sandbox	singletenantazure-sandbox	📋

Error Code	ResourceOperationFailure
Error Message	The resource operation completed with terminal provisioning state 'Failed'.
Details Code	OperationTimedOut
Details Message	The operation timed out and automatically rolled back. Please retry the operation.

Event Time	Operation Name	Status	Correlatic	Service Re	Sub Status	Error Code	Error Message	Details Code	Details Message	Resource Name
2022-03-09T18:26:48.2710441Z	Microsoft.DBforPostgreSQL/flexibleServers/write	Failed	619cc9fa-2	N/A	N/A	ResourceOperationFailure	The resource operation completed with terminal provisioning state 'Failed'.	OperationTimedOut	The operation timed out and automatically rolled back. Please retry the operation.	resolve-test-pn-2
2022-03-09T16:51:04.0933706Z	Microsoft.DBforPostgreSQL/flexibleServers/write	Failed	ff70dcf8-3	N/A	N/A	ResourceOperationFailure	The resource operation completed with terminal provisioning state 'Failed'.	ServerNameAlreadyExists	Specified server name is already used by another server. Please use a different name.	resolve-test-pn-2
2022-03-09T16:27:52.8166990Z	Microsoft.DBforPostgreSQL/flexibleServers/write	Failed	b454367d-	N/A	N/A	ResourceOperationFailure	The resource operation completed with terminal provisioning state 'Failed'.	OperationInterrupted	The operation on the resource could not be completed because it was interrupted by another operation on the same resource.	resolve-test-pn-1
2022-03-09T16:06:06.4844730Z	Microsoft.DBforPostgreSQL/flexibleServers/write	Failed	37757735-	N/A	N/A	ResourceOperationFailure	The resource operation completed with terminal provisioning state 'Failed'.	ServerNameAlreadyExists	Specified server name is already used by another server. Please use a different name.	resolve-test-pn-1
2022-03-08T21:28:06.0942268Z	Microsoft.DBforPostgreSQL/flexibleServers/write	Failed	c54c3fc6-d	b450932e-	BadRequest	MissingRequiredParameter	Parameter 'PrivateDnsZoneArmResourceId' must be specified. This parameter cannot be NULL or empty.	N/A	N/A	resolve-test-pn-1

From Kusto we observe the following using the Correlation ID for failed operation

- For Flexible Server

```
MonOrcasBreadthResourceProvider
| where (TIMESTAMP >= datetime(2022-02-24T20:45:58Z) and TIMESTAMP < datetime(2022-02-27T02:10:58Z))
| where correlation_id contains "7fae11cf-30af-4ced-845e-7cb20c1b2e8c"
| project TIMESTAMP, action_name, request_id, request_url, correlation_id, exception_type, error_code, stack_t
```

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correlation_id	exception_type	error_code
7fae11cf-30af-4ced-845e-7cb20c1b2e8c		
7fae11cf-30af-4ced-845e-7cb20c1b2e8c		
7fae11cf-30af-4ced-845e-7cb20c1b2e8c	FiniteStateMachineUserException	ServerNameAlreadyExists
7fae11cf-30af-4ced-845e-7cb20c1b2e8c	FiniteStateMachineUserException	ServerNameAlreadyExists

- Additionally refer this link (Troubleshoot PostgreSQL Flexible Provisioning issue) for further analysis.

- For Single Server

```
let SubscriptionID = "xyz-xyz-123-234-xyz";
MonManagement
| where TIMESTAMP >= datetime(2022-02-22 19:18)
//| where (TIMESTAMP >= datetime(2022-02-24T20:45:58Z) and TIMESTAMP < datetime(2022-02-27T02:10:58Z))
| where subscription_id == SubscriptionID
| where correlation_id contains "ENTER THE CORRELATION ID HERE"
| project TIMESTAMP, subscription_id, request_id, work_item_id, transaction_id, event, elapsed_time, operation
```

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Additionally we shall observe following errors as well from ARM opertaion:

The virtual network XXXXXXXXXXX is not linked to private DNS zone privatelink.postgres.database.azure.co to zone and retry.
The operation on the resource could not be completed because it was interrupted by another operatior
The operation timed out and automatically rolled back. Please retry the operation.
The operation on th resource could not be completed beacuse it was interrupted by another operation
Can not delete resource before nested resources are deleted.
Private static IP address does not belong to the range of subnet prefix
Subnet XXXXXX is in use and cannot be updated.
Subnet /subscriptions/XXXXXXXXXXXXXXX/resourceGroups/XXXXXXXXXXX/providers/Microsoft.Network/virtua XXXXXXXXX requires any of the following delegation(s) [Microsoft.DBforPostgreSQL/flexibleServers] to /subscriptions/XXXXXXXXXXXXXXX/resourceGroups/XXXXXXXXXXXXXX/providers/Microsoft.Network/ XX/subnets/XXXXXXXXXXXXXXXXUSUE2ODTB001T/serviceAssociationLinks/XXXXXXXXXXXXXXX-service-
Network Interface /subscriptions/XXXXXXXXXXXXXXX/resourceGroups/XXXXXXXXXXXXXX/providers/Microsoft.Network/ by existing resource /subscriptions/XXXXXXXXXXXXXXX/resourceGroups/XXXXXXXXXXXXXX/providers/Microsoft.Compute to delete the network interface, it must be dissociated from the resource. To learn more, see aka.ms/del

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Recommendation for all scenario

1) Deleting the nested resources i.e. Private DNS zone which was created from previous deployment. As DNS scope is Global as well as described here: https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/ready/azure-best-practices/resource-naming#example-names-networking

Asset type	Scope	Format and examples
DNS label	Global	*<DNS A record for VM>.<region>.cloudapp.azure.com* • `dc1.westus.cloudapp.azure.com` • `web1.eastus2.cloudapp.azure.com`

2) Naming scope for Azure Database for PostgreSQL, MySQL is global where server name is unique across Azure.

Asset type	Scope	Format and examples
MySQL database	Global	*mysql-<app name>-<environment>* • `mysql-navigator-prod` • `mysql-emissions-dev`
PostgreSQL database	Global	*psql-<app name>-<environment>* • `psql-navigator-prod` • `psql-emissions-dev`

Additional Information

Naming Scope understanding
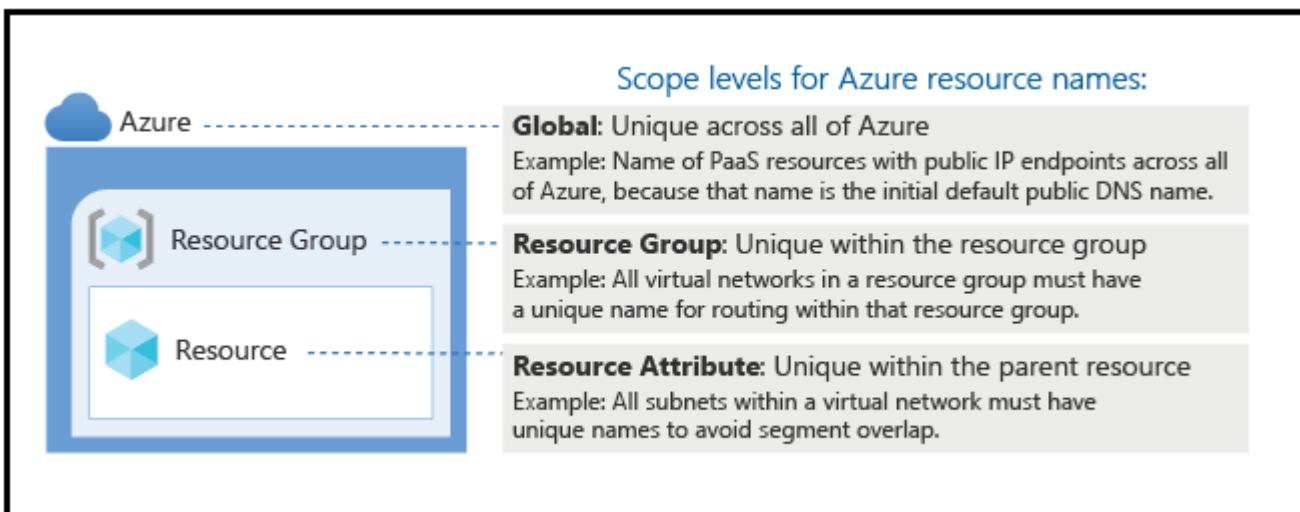
Mitigation

- Ask the customer to create the server with unique name as error indicates.

- Deleting the nested resources i.e. Private DNS zone which was created from previous deployment.

- Above are the possible reasons for Azure Database for PostgreSQL Flexible provisioning errors. There may be other scenarios also for failed provisioning. Feel free to update the TSG if you come across any other possible scenarios.

Public Doc Reference (optional)

Define your naming convention | Microsoft Doc: https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/ready/azure-best-practices/resource-naming

Root Cause Classification

- PostgreSQL Single Server/Create, Update and Drop Resources/Server

- PostgreSQL Flexible Server/CRUD/User Issue/Error/Incorrect payload