Different storage space for elastic pool joining failover group

Last updated by | Vitor Tomaz | Feb 24, 2023 at 3:24 AM PST

Contents

Issue

Customer has configured failover group for elastic pool and performed create/drop database operation for a few databases inside the pool on secondary. After that, customer see different storaged space for elastic pool on Azure Portal.

Investigation/Analysis

1. Check the file space for databases inside the pool on primary and secondary, there is no differences.

```
MonDmIoVirtualFileStats
    | where LogicalServerName == 'logical server name' and AppName == "AppName"
    | where type_desc == "ROWS"
    | summarize by ServerName=LogicalServerName, actual_size_gb = size_on_disk_bytes / (1024.0*1024.0*1024.0),
    | where actual_size_gb > 0 and actual_max_size_gb > 0
    | project ServerName, actual_size_gb, actual_max_size_gb
    | order by actual_size_gb desc
    | limit 5
```

2. From MonManagementOperations, we could see the operation history to create and drop databases on secondary pool.

```
MonManagementOperations
| where originalEventTimestamp >= datetime(2021-08-15) and originalEventTimestamp <= datetime(2021-08-19)
| where operation_parameters contains "logical server name"
| where operation_type !in ("ExecuteDatabaseVulnerabilityAssessmentScan", "ResaveServerAuditing", "SendEmailNo
| project originalEventTimestamp, request_id, event, operation_type, operation_parameters
| extend ops = parse_xml(operation_parameters)
| extend ops_string = tostring(ops.InputParameters)
| extend ops_string = replace_string(ops_string, "{\"@xsi:nil\":\"true\"}", "null")
| extend ops_string = replace_string(ops_string, "\"@xmlns:xsd\":\"http://www.w3.org/2001/XMLSchema\",\"@xmlns
| extend json_ops = todynamic(ops_string)
| evaluate bag_unpack(json_ops)
| project-away ops, ops_string, operation_parameters
| order by originalEventTimestamp asc
```

Mitigation

Nothing to mitigate.

This behaviour is by design.

RCA (optional)

During <Issue Start Time> and <Issue End Time>, you create and drop <Database Number> databases: <Each Database Name> on secondary pool. It is possible that when one or more of these databases were dropped there was some time lag when the physical files were cleaned up accounting for the differences in space used as physical file cleanup is asynchronous from the database drop operation.

During database drop we first mark the database as dropped logically, so it no longer appears in the portal. Next in the same workflow we perform additional tasks in the background to cleanup the dropped database files like perform the final tail log backup of the database to ensure we can recover the database in case the customer later wants to restore it. If there are delays completing final tail log backup this can account for the lag in space used.

The storaged space discrepancy will resolve automatically when the backend workflow completes.

Internal Reference (optional)

- Incident 259083604 ☒

Root Cause Classification

Root Cause: /Azure SQL v3/CRUD/Elastic Pool/Other

How good have you found this content?

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