

Custom activity remains stuck in 'In progress'

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Issue

Customer complains that custom activity is stuck in "In Progress" state

Background

After custom activity starts, ADF should submit the task to Azure Batch within a short delay. After that, ADF has no control on how long the activity takes to execute. Any further delays might be caused by:

- Customer's VMs do not have enough capacity => customer needs to increase VM pool size/use autoscale.
- Customer's VMs run out of disk space => customer needs to delete existing files on nodes/reimage nodes and set a lower value for retention policy.
- Customer's Azure Batch nodes are in a bad state => Responsibility of Azure Batch
- Azure Batch outage => Responsibility of Azure Batch
- Customer's program launched, but got stuck during execution => Responsibility of customer to debug this problem

Resolution

1. Check **CustomLogEvent** in Kusto with the activity ID in question to verify when ADF sent the task to Azure Batch for execution.

PreciseTimeStamp ActivityId Message

```
2019-10-17 09:21:57.8362628 b597513d-cb53-4dd7-bc01-43ab2c3da90e <LogProperties><Text>Task submit succeed  
</LogProperties>
```

```
2019-10-18 07:10:16.0349753 9f69a81e-11ad-4af3-904b-27b3117abb50 <LogProperties><Text>Task submit succeed  
</LogProperties>
```

```
2019-10-17 09:21:57.7213934 91459ece-30dd-49e2-98f4-d5ff39d2a720 <LogProperties><Text>Task submit succeed  
</LogProperties>
```



If ADF sent the task to Azure Batch soon after the activity start time, responsibility for investigation has now shifted to Azure Batch or customer.

- Instruct customer to log on to Azure batch, look at their batch account under Jobs > adfv2-{PoolName} > Tasks > {activity ID} (see screenshot below) and check the Creation Time and the Previous state transition time, and check whether the task is Running and when it transitioned into Running state.


If task is Running, and transitioned into Running state soon after being created => this is scenario (e)
Customer's program launched, but got stuck during execution => Responsibility of customer to debug this problem.

The screenshot shows the Azure portal interface for a batch account. The task '01e94e3dadce' is selected, and its properties are displayed. The 'General' tab is active, showing details like ID, URL, Display name, and Command line. The 'Execution info' section shows the task is 'Completed' with a 'Success' result. The 'Previous state transition time' is highlighted with a red box, indicating the task transitioned to the 'Running' state on Thursday, March 14, 2019, at 12:35:01. The 'Creation time' and 'Last modified' are also highlighted with a red box, showing the same timestamp.

If Task is not Running, or took a long time to transition into Running state:

- Verify that customer's VM pool has enough capacity to handle the volume of tasks: Query ActivityRuns table in Kusto to check how many custom activities are run during the hours prior to the activity in question, and how long each takes. Check how many nodes customer has in the VM pool and how many tasks can run in parallel. Do some math to figure out whether there is enough capacity in the pool. If not, customer needs to increase capacity and/or use autoscale.
- Verify that customer's VM nodes did not run out of disk space: ask customers to remote desktop into the VM nodes and check whether there is still disk space on C: drive. If not, reimage the nodes. Also, instruct customers to set a lower value (but not 0) for the retentionTimeInDays property. See <https://docs.microsoft.com/en-us/azure/data-factory/transform-data-using-dotnet-custom-activity>
- If this did not solve the issue, transfer the case to Azure Batch. Customer's VM nodes might be in a bad state or there might have been an azure Batch outage.

Additional Information:

- **Icm References:** <https://icm.ad.msft.net/imp/v3/incidents/details/154142136/home> 
- **Author:** minhdo
- **Reviewer:** vimals
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