

Troubleshoot long queue time on SHIR

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Problem Description

Customer see their pipeline activity hangs long time in queue which runs on SHIR.

Cause

- Customer's SHIR is run out of capacity
- **[Deprecated]** Customer's SHIR version is having issues which would cause pipeline/activity run stuck

Possible Scenarios and Suggestions

1. Customer's SHIR is run out of capacity

[a] Using below query to check whether UsedCapacity >= MaxCapacity - 2 during that time, if yes, ask customer to scale up to more nodes or distribute pipeline runs to more time period

```
Heartbeats
| where AgentGroupName == '<IR Name>' and SubscriptionId == '<Subscription Id>'
| where TIMESTAMP >= datetime(<start time>) and TIMESTAMP < datetime(<end_time>)
| project TIMESTAMP, t = parsejson(Telemetries), AgentInstanceId, AgentGroupName
| extend UsedCapacity=toint(t["UsedCapacity"]), MaxCapacity=toint(t["MaxCapacity"])
| project-away t
```

[b] There are two suggestion for customer to increase the capacity:

- b.i. Scale out to more SHIR nodes (HA).
- b.ii. Scale up the performance of the machine hosting SHIR (or migrate SHIR to a more powerful machine with higher CPU/Memory).

[c] If customer doesn't agree to follow the above suggestions, we can suggest him to distribute pipeline runs into more time periods instead of triggering them at the same time to avoid peak load. But this is a bit complicated.

[d] If customer think that there is no many concurrent runs, Ask customer to cancel current ongoing activities, restart SHIR, reschedule activity runs

d.i. If it still repro, check the below query whether there are multiple LogId = PulledOffNewTask TaskHostingEvent | where Detail contains '<activity run Id>'

If yes, check whether there is any 'Windows Error Reporting' log in Windows Logs->Application reported by diawp.exe, send that to Microsoft

d.ii follow the TSG to create dump of diawp.exe: [https://supportability.visualstudio.com/AzureDataFactory/_wiki/wikis/AzureDataFactory/286724/Capture-dumps-for-Self-hosted-IR-\(diawp.exe\)](https://supportability.visualstudio.com/AzureDataFactory/_wiki/wikis/AzureDataFactory/286724/Capture-dumps-for-Self-hosted-IR-(diawp.exe))

2. Customer's SHIR could not connect to {factoryName}.{region}.datafactory.azure.net

follow this TSG: https://supportability.visualstudio.com/AzureDataFactory/_wiki/wikis/AzureDataFactory/386057/Failed-to-connect-to-cloud-service

3. **[Deprecated, no longer valid]** Customer's SHIR version is having issues which would cause pipeline/activity run stuck.

Check the SHIR version using below query, if you could not see any records below, meaning that it's not a SHIR probably a Linked IR

```
InstanceDailySnapshot
| where SubscriptionId == '<Subscription Id>' and GatewayName == '<IR Name>'
| project TIMESTAMP, GatewayId, GatewayName, InstanceName, GatewayVersion, InstanceVersion
```

Check the day which the issue happens and find that InstanceVersion, according to the TSG here, to see whether there is any known issue there, if yes, either downgrade or upgrade: https://supportability.visualstudio.com/AzureDataFactory/_wiki/wikis/AzureDataFactory/286735/Self-hosted-IR/slash/Gateway-Downgrade

4. **[Deprecated, no longer valid]** For SHIR version < 5.1, Cx could not connect to Download Center, auto update cannot be completed and SHIR stops pull new task when trying to download new version of SHIR.

```
let irId = (
TaskHostingEvent
| where ActivityId == "<Activity Run Id>"
| distinct QueueId);
TraceGatewayLocalEventLog
| where GatewayId in (irId)
| project TIMESTAMP, LocalTimestamp, LocalMessage, LocalTraceLevel
```

Any LocalMessage has this bitsDownloadFailure

7.1503955	2020-03-18 14:43:47.1461256	{ "bitsDownloadFailure": "Download Integration Runtime (Self-hosted) failed with exception: \"An exception occurred during a WebClient request.\""
0.5067379	2020-03-18 14:44:20.4989672	{ "bitsDownloadFailure": "Download Integration Runtime (Self-hosted) failed with exception: \"An exception occurred during a WebClient request.\""
2.5018965	2020-03-18 14:44:52.5008176	{ "bitsDownloadFailure": "Download Integration Runtime (Self-hosted) failed with exception: \"An exception occurred during a WebClient request.\""

Or any error in the code path

```
DEBUG:
The underlying connection was closed: An unexpected error occurred on a send.
The underlying connection was closed: An unexpected error occurred on a send.
Authentication failed because the remote party has closed the transport stream.

Exception detail:

System.Net.WebException: The underlying connection was closed: An unexpected error occurred on a send. ----> System.IO.IOException: Authentication failed because the remote party has closed the transport stream.
at System.Net.TlsStream.EndWrite(IAsyncResult asyncResult)
at System.Net.ConnectStream.WriteHeadersCallback(IAsyncResult ar)
--- End of inner exception stack trace ---
at System.Net.HttpWebRequest.EndGetResponse(IAsyncResult asyncResult)
at System.Net.WebClient.GetWebResponse(WebRequest request, IAsyncResult result)
at System.Net.WebClient.DownloadBitsResponseCallback(IAsyncResult result)
```

Check in Selfhosted IR's event log, whether there is any EventId=510, If matches, then mitigation steps:

Recommended: Ask customer to fix download center access issue.

Temp workaround (**not recommended** as this means customer SHIR could never be auto updated and customer need to manually update every time there is a new version)

- Turn off auto update
- Turn off update service:
- Log into the SHIR hosted machine, Open the powershell using Elevated permission Run below 2 script:

```
Set-Service -Name DMGUpgradeService -StartupType Manual
Stop-Service -Name DMGUpgradeService
```

```
PS C:\WINDOWS\system32> Get-Service -Name DMGUpgradeService

Status Name DisplayName
-----
Running DMGUpgradeService Integration Runtime Update Service

PS C:\WINDOWS\system32> Set-Service -Name DMGUpgradeService -StartupType Manual
PS C:\WINDOWS\system32> Stop-Service -Name DMGUpgradeService
PS C:\WINDOWS\system32>
```

5. ADF product issues:

Check the same steps as above starting from step:1.d.i

Reference for Kusto queries

```
TaskManagementServiceActivity
| where PathAndQuery contains "next" and PathAndQuery contains "<Queue Id>"
```