

# SHIR offline troubleshooting

Last updated by | Veena Pachauri | Mar 8, 2023 at 11:10 PM PST

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## Problem Description

Activity failed with message "The Self-hosted Integration Runtime 'DSCGlobalIntegrationRuntime-ProdAzureLandingZone01' is offline, last connect time is '04/27/2022 16:43:43.719', Self-hosted Integration Runtime id is 'faf577d8-bc78-4e70-8c82-efa019fb3451'"

## Cause

SHIR sends heartbeat to ADF service every 30 seconds. If heartbeats are lost for 100 seconds, SHIR will treat SHIR as unhealthy and show offline in portal. If heartbeats are lost for 3 minutes, ADF will stop queuing activity to SHIR queue to avoid queue overflow and activity is failed with this error.

More detail:

Usually we send heartbeat per 30 seconds. A heartbeat is sent when previous heartbeat is completed: If previous heartbeat is succeed, it will wait 30 seconds and then send next heartbeat. If previous heartbeat is failed, it will send the heartbeat immediately. If no heartbeat from SHIR is received for 100 seconds, service treats SHIR as offline.

So in case of any timeout in the first heartbeat, server might not receive heartbeat for 100 seconds and shir shows offline

## Recommendations

1. Get the integrationRuntimeId and last connect time from the message.
2. Run below kusto func to check heartbeat telemetries:

```
collect_SHIRTelemetries(<integrationRuntimeId>,<lastconnecttime>)
```

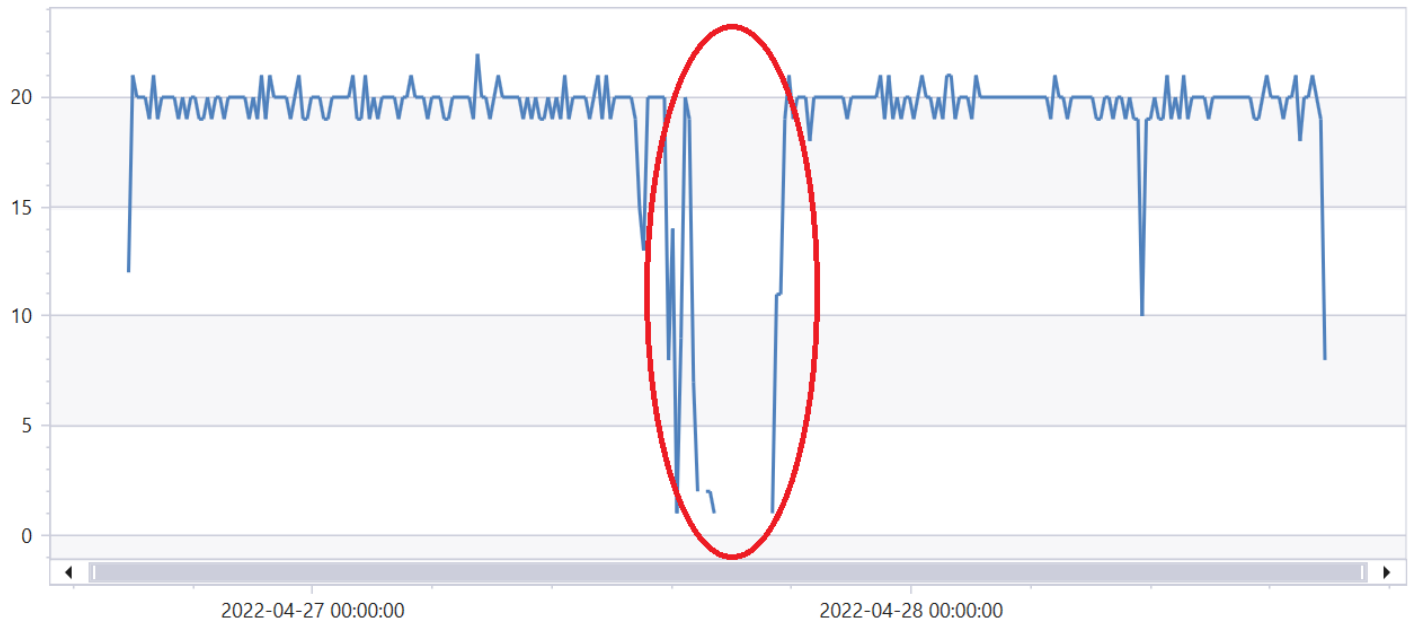
3. Usually every 10 minutes should have about 20 heartbeats. We can summarize the result of [#2](#) to get the timeline chart.

```
collect_SHIRTelemetries(<integrationRuntimeId>,<lastconnecttime>)
```

```
| summarize count() by bin(TIMESTAMP, 10m), AgentInstanceId
```

```
| render timechart
```

4. We can see clearly no heartbeat during this period.



5. Check any CPU or memory issue in the result of #2 .

6. Collect SHIR logs and investigate what happens during this period.

```
collect_SHIRLocalLogs("376304fa-2be7-46d8-a104-2f6c6d027150")
```

7. Don't escalate to PG if there is no logs or connectivity issue. VM team and network team should be the best resource to escalate for connectivity issue.

#### Justification:

SHIR is just an windows application and fully managed by customer instead of Microsoft. It is customer's responsibility to make sure the environment is healthy. Cannot send out heartbeat means there are some issues on the VM hosting SHIR, like transient network issue or VM crash. If there is error showing connectivity issue during this period, please escalate to the network team or VM team.

#### Possible solutions

1. Check any connectivity issue or VM crash. If yes, escalate to network team or VM team.
2. Check any high CPU/low memory issue caused by activity runs during the downtime. If yes, check whether it is expected and scale up machine performance if necessary.
3. If SHIR only has one node, enable SHIR high availability (<https://docs.microsoft.com/en-us/azure/data-factory/create-self-hosted-integration-runtime?tabs=data-factory#high-availability-and-scalability>) to prevent from such single point failure. (No downtime during registration/addition of new node)