

## PO/PI Missing Messages

Sometimes you may see missing PI message data in Splunk. This can be caused by a number of factors outlined below.

### Max Messages Setting

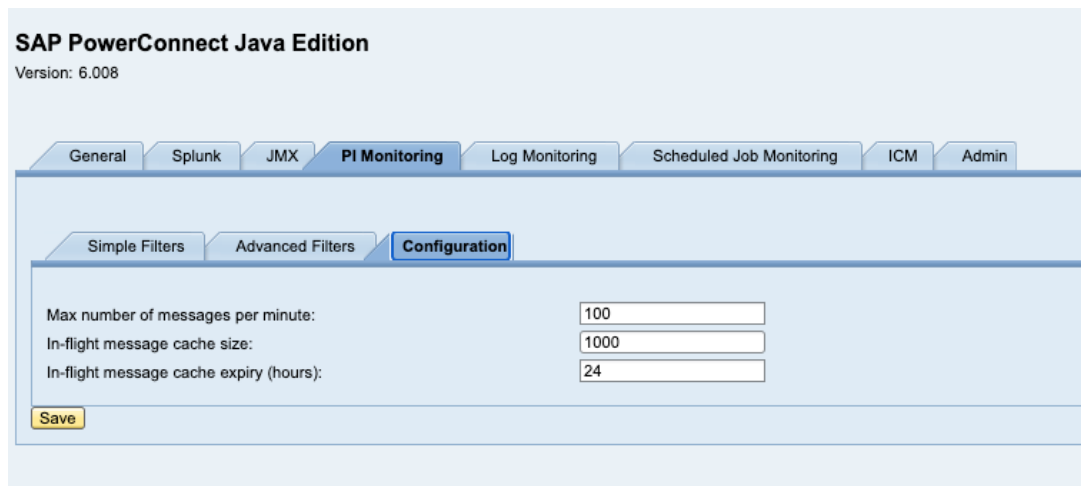
The PowerConnect Agent uses a SAP PI web service to retrieve PI message metadata, payloads and logs. This web service has a mandatory limit parameter which limits the number of results the web service will return. This is to protect the SAP PI system from large queries which return large numbers of results.

By default the PowerConnect agent will return 100 messages per polled interval per filter e.g. if the agent is configured to poll for PI messages every 1 minute and a single simple filter has been configured, the maximum number of PI messages each minute will be 100. The PowerConnect log shows how many PI messages are being sent per polling interval and can indicate if the max message limit is being hit e.g:

```
20-08-05 05:31:45 su12ora12pi75 INFO [sap-powerconnect-java.core:215] - SAP PowerConnect: Sent 100 events of type pi_message to Splunk
```

In this instance the max messages setting is 100 and PowerConnect has sent exactly 100 PI messages to Splunk and therefore has hit the limit.

To raise the limit click on the PI Monitoring tab in the PowerConnect UI, click the Configuration tab then increase the “Max number of messages per minute” setting:



The screenshot shows the SAP PowerConnect Java Edition Configuration page. The title is "SAP PowerConnect Java Edition" with version "6.008". The navigation tabs include General, Splunk, JMX, PI Monitoring (selected), Log Monitoring, Scheduled Job Monitoring, ICM, and Admin. Under the PI Monitoring tab, there are sub-tabs for Simple Filters, Advanced Filters, and Configuration (selected). The Configuration section contains three input fields: "Max number of messages per minute" (set to 100), "In-flight message cache size" (set to 1000), and "In-flight message cache expiry (hours)" (set to 24). A "Save" button is located at the bottom left of the configuration area.

### Logged Messages

PI has two types of message persistence with regards to processing steps - staging and logging. The differences between these are documented here:

<https://blogs.sap.com/2012/11/06/message-staging-and-logging-options-in-advanced-adapter-engine-of-pi-73x/>

Logged messages are designed to be ephemeral. They live in a cache for a period of time, then are moved to the database where certain metadata about the message is removed including the Node ID where the message was processed. Once removed from the cache these PI messages are no longer visible to the SAP PI web service as the PowerConnect agent relies on the Node ID as part of its filter so that each PowerConnect agent only retrieves messages for the node it's running on.

This behaviour can lead to missed messages where the SAP PI cache has been purged before the PowerConnect agent has queried the web service. This is more likely to occur in high volume systems where the PI cache is purged more frequently.

To confirm whether a PI message is logged, use the PI Message Monitoring console in NWA to inspect the message. If the Quality of Service is BE (Best Effort) and the status of the message has “Log Version” as it’s value then the PI message is logged rather than staged:

**Message Editor: Versions**

[Favorites](#)
[Related Links](#)
[Go To](#)
[Support Details](#)

**Message ID** c2faf0bd-d6e0-11ea-a0e9-000000472dae  
**Direction** OUTBOUND  
**Node ID** 4664750  
**Quality of Service** BE  
**Sequence Number** 0  
**Archived** false

| Version | Caption         | Status      | Start Time        | End Time          | Manually Chan... | Admin User | Send |
|---------|-----------------|-------------|-------------------|-------------------|------------------|------------|------|
| 0       | Sender JSON ... | Log version | 8/5/2020 3:59:... | 8/5/2020 3:59:... | No               |            |      |
| 1       | BI              | Log version | 8/5/2020 3:59:... | 8/5/2020 3:59:... | No               |            |      |
| 2       | SC              | Log version | 8/5/2020 3:59:... | 8/5/2020 3:59:... | No               |            |      |
| 0       |                 | Delivered   | 8/5/2020 3:59:... | 8/5/2020 3:59:... | No               |            |      |

**Message Header**
[Message Attributes](#)
[Payload](#)
[Attachments](#)

Sender Party:   
 Sender Component:   
 Receiver Party:   
 Receiver Component:   
 Interface:  Interface Namespace:

In this scenario if messages are being missed, it is recommended to convert them to staged messages so that they are persisted with the relevant metadata and are not subject to cache expiry.