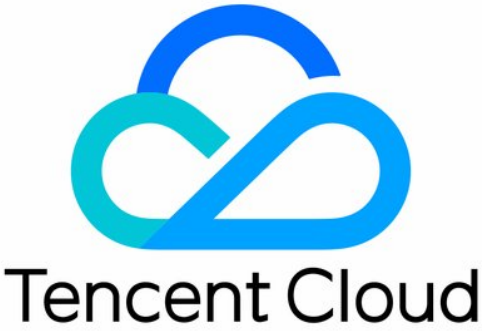
TDMQ for Apache Pulsar

General References

Product Documentation



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General References

Message Type

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In TDMQ, messages can be divided into the following types according to their characteristics and use cases:

Message Type	Consumption Sequence	Performance	Use Cases
General message	No sequence	Highest	Huge-Throughput use cases with no requirements for production and consumption sequence
Partitionally sequential message	All messages in the same partition follow the First In, First Out (FIFO) rule	High	High-Throughput use cases that require message sequence in the same partition but not across different partitions
Globally sequential message	All messages in the same topic follow the First In, First Out (FIFO) rule	Average	Average-Throughput use cases that require global message sequence with only one partition
Dead letter message	-	-	Messages that cannot be consumed normally

General Message

General message is a basic message type, where a message is delivered to the specified topic by the producer and then consumed by the consumer subscribed to the topic. As general messages are not sequential in a topic, you can use multiple partitions to improve the message production/consumption efficiency, and they deliver the best performance when the throughput is huge.

Partitionally Sequential Message

Compared with general messages, partitionally sequential messages are sequential in a particular partition; that is, in the same partition, the consumer consumes messages strictly in the order they are delivered to the partition by the producer. This message type retains the partitioning mechanism to improve the performance while guaranteeing a certain sequence, but it cannot guarantee the sequence across different partitions.

Globally Sequential Message

The most distinctive characteristic of the globally sequential message type is that messages are consumed strictly in the order they are delivered by the producer. Therefore, it uses a single partition to process messages, and you cannot customize the number of partitions. It has a lower performance than the other two message types.

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Dead Letter Message

A dead letter message is a message that cannot be consumed normally. When you create a subscription in TDMQ for Apache Pulsar (to subscribe a consumer to a topic), a dead letter topic will be automatically created to process messages of this type.

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Retry Letter Topic and Dead Letter Topic

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Retry Letter Topic

A retry letter topic is designed to ensure that messages are consumed normally. If no normal response is received after a message is consumed by the consumer for the first time, it will enter the retry letter topic, and after a specified number of failed retries, it will be delivered to the dead letter topic.
In actual scenarios, messages may not be processed promptly due to temporary issues such as network jitter and service restart, and the retry mechanism of the retry letter topic can be a good solution in this case.

Dead Letter Topic

A dead letter topic is a special type of message topic used to centrally process messages that cannot be consumed normally. If a message cannot be consumed after a specified number of retries in the retry letter topic, TDMQ for Apache Pulsar will determine that the message cannot be consumed under the current situation and deliver it to the dead letter topic.
In actual scenarios, messages may not be consumed due to service downtime or network disconnection. In this case, they will not be discarded immediately; instead, they will be persisted by the dead letter topic. After fixing the problem, you can create a consumer subscription to the dead letter topic to process such messages.

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