

# Production Incident History

## Streaming System Incidents - Last 6 Months

### Summary:

- Total Incidents: 40
- Critical: 9
- High: 13
- Warning: 18

**Most Common Issue Type:** Consumer Lag (5 incidents)

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### Incident #1

**Date & Time:** 2024-12-28 15:42:31

**Type:** Consumer Lag

**Severity:** HIGH

**Affected Topic:** orders-topic

**Duration:** 38 minutes

**Description:** Consumer lag increased to 647 seconds on orders-topic. Backlog size reached 98,432 messages. Root cause: Slow downstream database queries causing processing delays.

**Resolution:** Scaled consumer instances from 3 to 8. Optimized database queries. Added connection pooling.

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### Incident #2

**Date & Time:** 2024-12-15 09:18:22

**Type:** High Latency

**Severity:** WARNING

**Affected Topic:** payments-topic

**Duration:** 18 minutes

**Description:** P99 latency spiked to 4,523ms. Average latency increased from 150ms to 1,234ms. Affected 23% of messages.

**Resolution:** Identified network congestion. Adjusted batch sizes. Implemented compression.

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### Incident #3

**Date & Time:** 2024-12-10 03:25:11

**Type:** Broker Failure

**Severity:** CRITICAL

**Affected Topic:** multiple-topics

**Duration:** 67 minutes

**Description:** Broker node 3 crashed due to OOM error. Caused partition rebalancing across remaining brokers. Message throughput dropped by 78%.

**Resolution:** Restarted broker with increased heap size. Redistributed partitions. Enabled automatic rebalancing.

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## Incident #4

**Date & Time:** 2024-11-28 14:52:08

**Type:** Producer Timeout

**Severity:** WARNING

**Affected Topic:** orders-topic

**Duration:** 28 minutes

**Description:** Producer timeout errors increased to 347/sec. Request timeout set too low at 12s. Caused message retry storms.

**Resolution:** Increased producer timeout to 30s. Adjusted batch.size and linger.ms. Added circuit breaker pattern.

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## Incident #5

**Date & Time:** 2024-11-22 11:33:45

**Type:** Consumer Lag

**Severity:** HIGH

**Affected Topic:** orders-topic

**Duration:** 42 minutes

**Description:** Consumer lag increased to 523 seconds on orders-topic. Backlog size reached 127,845 messages. Root cause: Slow downstream database queries causing processing delays.

**Resolution:** Scaled consumer instances from 3 to 8. Optimized database queries. Added connection pooling.

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## Incident #6

**Date & Time:** 2024-11-18 08:47:19

**Type:** Disk Space Full

**Severity:** HIGH

**Affected Topic:** logs-topic

**Duration:** 35 minutes

**Description:** Broker disk utilization reached 97%. Log retention caused storage overflow. Unable to accept new messages on logs-topic.

**Resolution:** Cleaned old log segments. Adjusted retention policy from 7 days to 3 days. Added disk monitoring alerts.

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## Incident #7

**Date & Time:** 2024-11-15 16:22:54

**Type:** Schema Incompatibility

**Severity:** HIGH

**Affected Topic:** user-events-topic

**Duration:** 48 minutes

**Description:** Producer sent messages with incompatible schema version 8. Consumers failed to deserialize 34,521 messages. Data pipeline blocked.

**Resolution:** Rolled back producer to compatible schema. Implemented schema validation at producer. Updated schema registry policies.

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## Incident #8

**Date & Time:** 2024-11-10 19:38:27

**Type:** High Latency

**Severity:** WARNING

**Affected Topic:** inventory-topic

**Duration:** 21 minutes

**Description:** P99 latency spiked to 3,891ms. Average latency increased from 150ms to 987ms. Affected 17% of messages.

**Resolution:** Identified network congestion. Adjusted batch sizes. Implemented compression.

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## Incident #9

**Date & Time:** 2024-11-05 07:15:33

**Type:** Message Loss

**Severity:** CRITICAL

**Affected Topic:** payments-topic

**Duration:** 93 minutes

**Description:** Detected 3,247 missing messages in payments-topic. Producer acknowledgment failures during network partition. Financial impact: \$156,000.

**Resolution:** Implemented idempotent producers. Added message ID tracking. Enabled exactly-once semantics.

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## Incident #10

**Date & Time:** 2024-10-29 13:41:12

**Type:** Partition Rebalance

**Severity:** WARNING

**Affected Topic:** user-activity-topic

**Duration:** 44 minutes

**Description:** Consumer group rebalancing triggered 12 times in 10 minutes. Caused processing gaps and duplicate message consumption.

**Resolution:** Increased session.timeout.ms. Optimized consumer processing logic. Reduced partition count from 100 to 50.

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## Incident #11

**Date & Time:** 2024-10-25 10:28:45

**Type:** Producer Timeout

**Severity:** WARNING

**Affected Topic:** notifications-topic

**Duration:** 31 minutes

**Description:** Producer timeout errors increased to 428/sec. Request timeout set too low at 8s. Caused message retry storms.

**Resolution:** Increased producer timeout to 30s. Adjusted batch.size and linger.ms. Added circuit breaker pattern.

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## Incident #12

**Date & Time:** 2024-10-20 22:54:17

**Type:** High Latency

**Severity:** WARNING

**Affected Topic:** orders-topic

**Duration:** 14 minutes

**Description:** P99 latency spiked to 5,672ms. Average latency increased from 150ms to 1,423ms. Affected 26% of messages.

**Resolution:** Identified network congestion. Adjusted batch sizes. Implemented compression.

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### Incident #13

**Date & Time:** 2024-10-15 05:37:28

**Type:** Consumer Lag

**Severity:** HIGH

**Affected Topic:** orders-topic

**Duration:** 29 minutes

**Description:** Consumer lag increased to 789 seconds on orders-topic. Backlog size reached 84,329 messages. Root cause: Slow downstream database queries causing processing delays.

**Resolution:** Scaled consumer instances from 3 to 8. Optimized database queries. Added connection pooling.

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### Incident #14

**Date & Time:** 2024-10-12 18:19:55

**Type:** Memory Leak

**Severity:** CRITICAL

**Affected Topic:** analytics-topic

**Duration:** 142 minutes

**Description:** Consumer application memory usage grew from 2GB to 14GB over 6 hours. Caused by unbounded cache in message processor. Eventually led to OOM crash.

**Resolution:** Implemented LRU cache with max size limit. Added memory monitoring. Restarted affected consumers.

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### Incident #15

**Date & Time:** 2024-10-08 12:45:31

**Type:** Disk Space Full

**Severity:** HIGH

**Affected Topic:** logs-topic

**Duration:** 27 minutes

**Description:** Broker disk utilization reached 98%. Log retention caused storage overflow. Unable to accept new messages on logs-topic.

**Resolution:** Cleaned old log segments. Adjusted retention policy from 7 days to 3 days. Added disk monitoring alerts.

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## Incident #16

**Date & Time:** 2024-10-03 09:33:42

**Type:** High Latency

**Severity:** WARNING

**Affected Topic:** payments-topic

**Duration:** 19 minutes

**Description:** P99 latency spiked to 6,234ms. Average latency increased from 150ms to 1,156ms. Affected 21% of messages.

**Resolution:** Identified network congestion. Adjusted batch sizes. Implemented compression.

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## Incident #17

**Date & Time:** 2024-09-28 21:17:08

**Type:** Schema Incompatibility

**Severity:** HIGH

**Affected Topic:** user-events-topic

**Duration:** 52 minutes

**Description:** Producer sent messages with incompatible schema version 6. Consumers failed to deserialize 28,934 messages. Data pipeline blocked.

**Resolution:** Rolled back producer to compatible schema. Implemented schema validation at producer. Updated schema registry policies.

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## Incident #18

**Date & Time:** 2024-09-24 14:52:23

**Type:** Producer Timeout

**Severity:** WARNING

**Affected Topic:** orders-topic

**Duration:** 24 minutes

**Description:** Producer timeout errors increased to 293/sec. Request timeout set too low at 11s. Caused message retry storms.

**Resolution:** Increased producer timeout to 30s. Adjusted batch.size and linger.ms. Added circuit breaker pattern.

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## Incident #19

**Date & Time:** 2024-09-19 06:28:51

**Type:** Broker Failure

**Severity:** CRITICAL

**Affected Topic:** multiple-topics

**Duration:** 81 minutes

**Description:** Broker node 2 crashed due to OOM error. Caused partition rebalancing across remaining brokers. Message throughput dropped by 72%.

**Resolution:** Restarted broker with increased heap size. Redistributed partitions. Enabled automatic rebalancing.

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**Incident #20**

**Date & Time:** 2024-09-15 11:42:36

**Type:** Consumer Lag

**Severity:** HIGH

**Affected Topic:** orders-topic

**Duration:** 36 minutes

**Description:** Consumer lag increased to 431 seconds on orders-topic. Backlog size reached 112,567 messages. Root cause: Slow downstream database queries causing processing delays.

**Resolution:** Scaled consumer instances from 3 to 8. Optimized database queries. Added connection pooling.

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**Incident #21**

**Date & Time:** 2024-09-10 17:55:14

**Type:** High Latency

**Severity:** WARNING

**Affected Topic:** inventory-topic

**Duration:** 22 minutes

**Description:** P99 latency spiked to 7,123ms. Average latency increased from 150ms to 1,389ms. Affected 19% of messages.

**Resolution:** Identified network congestion. Adjusted batch sizes. Implemented compression.

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**Incident #22**

**Date & Time:** 2024-09-05 08:31:47

**Type:** Network Partition

**Severity:** CRITICAL

**Affected Topic:** all-topics

**Duration:** 118 minutes

**Description:** Network partition between datacenter zones. Split-brain scenario with 3 brokers isolated. Message duplication and ordering issues detected.

**Resolution:** Network team resolved routing issue. Forced leader election. Verified message consistency.

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## Incident #23

**Date & Time:** 2024-09-01 13:18:29

**Type:** Partition Rebalance

**Severity:** WARNING

**Affected Topic:** user-activity-topic

**Duration:** 37 minutes

**Description:** Consumer group rebalancing triggered 9 times in 10 minutes. Caused processing gaps and duplicate message consumption.

**Resolution:** Increased session.timeout.ms. Optimized consumer processing logic. Reduced partition count from 100 to 50.

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## Incident #24

**Date & Time:** 2024-08-28 19:47:52

**Type:** Disk Space Full

**Severity:** HIGH

**Affected Topic:** logs-topic

**Duration:** 31 minutes

**Description:** Broker disk utilization reached 96%. Log retention caused storage overflow. Unable to accept new messages on logs-topic.

**Resolution:** Cleaned old log segments. Adjusted retention policy from 7 days to 3 days. Added disk monitoring alerts.

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## Incident #25

**Date & Time:** 2024-08-23 10:24:38

**Type:** Producer Timeout

**Severity:** WARNING

**Affected Topic:** notifications-topic

**Duration:** 27 minutes

**Description:** Producer timeout errors increased to 384/sec. Request timeout set too low at 9s. Caused message retry storms.

**Resolution:** Increased producer timeout to 30s. Adjusted batch.size and linger.ms. Added circuit breaker pattern.

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## Incident #26

**Date & Time:** 2024-08-19 15:39:21

**Type:** Schema Incompatibility

**Severity:** HIGH

**Affected Topic:** user-events-topic

**Duration:** 44 minutes

**Description:** Producer sent messages with incompatible schema version 9. Consumers failed to deserialize 41,268 messages. Data pipeline blocked.

**Resolution:** Rolled back producer to compatible schema. Implemented schema validation at producer. Updated schema registry policies.

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## Incident #27

**Date & Time:** 2024-08-15 07:52:15

**Type:** High Latency

**Severity:** WARNING

**Affected Topic:** payments-topic

**Duration:** 16 minutes

**Description:** P99 latency spiked to 2,847ms. Average latency increased from 150ms to 1,092ms. Affected 24% of messages.

**Resolution:** Identified network congestion. Adjusted batch sizes. Implemented compression.

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## Incident #28

**Date & Time:** 2024-08-11 22:16:43

**Type:** Message Loss

**Severity:** CRITICAL

**Affected Topic:** payments-topic

**Duration:** 107 minutes

**Description:** Detected 4,892 missing messages in payments-topic. Producer acknowledgment failures during network partition. Financial impact: \$187,000.

**Resolution:** Implemented idempotent producers. Added message ID tracking. Enabled exactly-once semantics.

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## Incident #29

**Date & Time:** 2024-08-07 12:44:57

**Type:** High Latency

**Severity:** WARNING

**Affected Topic:** orders-topic

**Duration:** 23 minutes

**Description:** P99 latency spiked to 3,564ms. Average latency increased from 150ms to 1,278ms. Affected 28% of messages.

**Resolution:** Identified network congestion. Adjusted batch sizes. Implemented compression.

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## Incident #30

**Date & Time:** 2024-08-02 16:27:34

**Type:** Broker Failure

**Severity:** CRITICAL

**Affected Topic:** multiple-topics

**Duration:** 54 minutes

**Description:** Broker node 5 crashed due to OOM error. Caused partition rebalancing across remaining brokers. Message throughput dropped by 65%.

**Resolution:** Restarted broker with increased heap size. Redistributed partitions. Enabled automatic rebalancing.

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## Incident #31

**Date & Time:** 2024-07-29 09:15:28

**Type:** Producer Timeout

**Severity:** WARNING

**Affected Topic:** orders-topic

**Duration:** 33 minutes

**Description:** Producer timeout errors increased to 456/sec. Request timeout set too low at 7s. Caused message retry storms.

**Resolution:** Increased producer timeout to 30s. Adjusted batch.size and linger.ms. Added circuit breaker pattern.

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## Incident #32

**Date & Time:** 2024-07-25 18:38:45

**Type:** Disk Space Full

**Severity:** HIGH

**Affected Topic:** logs-topic

**Duration:** 29 minutes

**Description:** Broker disk utilization reached 99%. Log retention caused storage overflow. Unable to accept new messages on logs-topic.

**Resolution:** Cleaned old log segments. Adjusted retention policy from 7 days to 3 days. Added disk monitoring alerts.

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## Incident #33

**Date & Time:** 2024-07-21 11:51:19

**Type:** Schema Incompatibility

**Severity:** HIGH

**Affected Topic:** user-events-topic

**Duration:** 56 minutes

**Description:** Producer sent messages with incompatible schema version 7. Consumers failed to deserialize 19,745 messages. Data pipeline blocked.

**Resolution:** Rolled back producer to compatible schema. Implemented schema validation at producer. Updated schema registry policies.

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## Incident #34

**Date & Time:** 2024-07-17 05:23:42

**Type:** Memory Leak

**Severity:** CRITICAL

**Affected Topic:** analytics-topic

**Duration:** 156 minutes

**Description:** Consumer application memory usage grew from 2GB to 15GB over 6 hours. Caused by unbounded cache in message processor. Eventually led to OOM crash.

**Resolution:** Implemented LRU cache with max size limit. Added memory monitoring. Restarted affected consumers.

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## Incident #35

**Date & Time:** 2024-07-13 14:47:26

**Type:** Partition Rebalance

**Severity:** WARNING

**Affected Topic:** user-activity-topic

**Duration:** 41 minutes

**Description:** Consumer group rebalancing triggered 14 times in 10 minutes. Caused processing gaps and duplicate message consumption.

**Resolution:** Increased session.timeout.ms. Optimized consumer processing logic. Reduced partition count from 100 to 50.

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## Incident #36

**Date & Time:** 2024-07-09 20:12:54

**Type:** High Latency

**Severity:** WARNING

**Affected Topic:** inventory-topic

**Duration:** 17 minutes

**Description:** P99 latency spiked to 4,921ms. Average latency increased from 150ms to 1,145ms. Affected 15% of messages.

**Resolution:** Identified network congestion. Adjusted batch sizes. Implemented compression.

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## Incident #37

**Date & Time:** 2024-07-05 08:56:37

**Type:** Network Partition

**Severity:** CRITICAL

**Affected Topic:** all-topics

**Duration:** 98 minutes

**Description:** Network partition between datacenter zones. Split-brain scenario with 2 brokers isolated. Message duplication and ordering issues detected.

**Resolution:** Network team resolved routing issue. Forced leader election. Verified message consistency.

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## Incident #38

**Date & Time:** 2024-07-01 13:34:21

**Type:** Consumer Lag  
**Severity:** HIGH  
**Affected Topic:** orders-topic  
**Duration:** 45 minutes

**Description:** Consumer lag increased to 856 seconds on orders-topic. Backlog size reached 143,298 messages.  
Root cause: Slow downstream database queries causing processing delays.

**Resolution:** Scaled consumer instances from 3 to 8. Optimized database queries. Added connection pooling.

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**Incident #39**

**Date & Time:** 2024-06-27 17:21:48  
**Type:** Producer Timeout  
**Severity:** WARNING  
**Affected Topic:** notifications-topic  
**Duration:** 26 minutes

**Description:** Producer timeout errors increased to 312/sec. Request timeout set too low at 13s. Caused message retry storms.

**Resolution:** Increased producer timeout to 30s. Adjusted batch.size and linger.ms. Added circuit breaker pattern.

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**Incident #40**

**Date & Time:** 2024-06-23 10:43:15  
**Type:** High Latency  
**Severity:** WARNING  
**Affected Topic:** payments-topic  
**Duration:** 20 minutes

**Description:** P99 latency spiked to 5,387ms. Average latency increased from 150ms to 1,312ms. Affected 22% of messages.

**Resolution:** Identified network congestion. Adjusted batch sizes. Implemented compression.

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**Incident Patterns Summary**

**Consumer Lag (5 incidents):**

- Average lag: 649 seconds
- Common cause: Database query slowness

- Standard resolution: Scale consumers, optimize queries

#### **High Latency (7 incidents):**

- P99 spikes: 2,847ms to 7,123ms
- Common cause: Network congestion
- Standard resolution: Batch size tuning, compression

#### **Broker Failures (3 incidents):**

- All caused by OOM errors
- Throughput drops: 65-78%
- Resolution: Heap size increase, rebalancing

#### **Producer Timeouts (6 incidents):**

- Timeout errors: 293-456/sec
- Common cause: Low timeout settings
- Resolution: Increase to 30s, add circuit breaker

#### **Message Loss (2 incidents):**

- Financial impact: \$156K-\$187K
- Cause: Network partitions
- Resolution: Idempotent producers, exactly-once semantics