



IBM Software Group

# Troubleshooting IBM® Business Monitor

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WebSphere® Support Technical Exchange



# Agenda

- Missing instances / metrics
  - ▶ Events not received
  - ▶ Events out of order
  - ▶ No instance found
  - ▶ No parent found
  
- Recurring wait time triggers

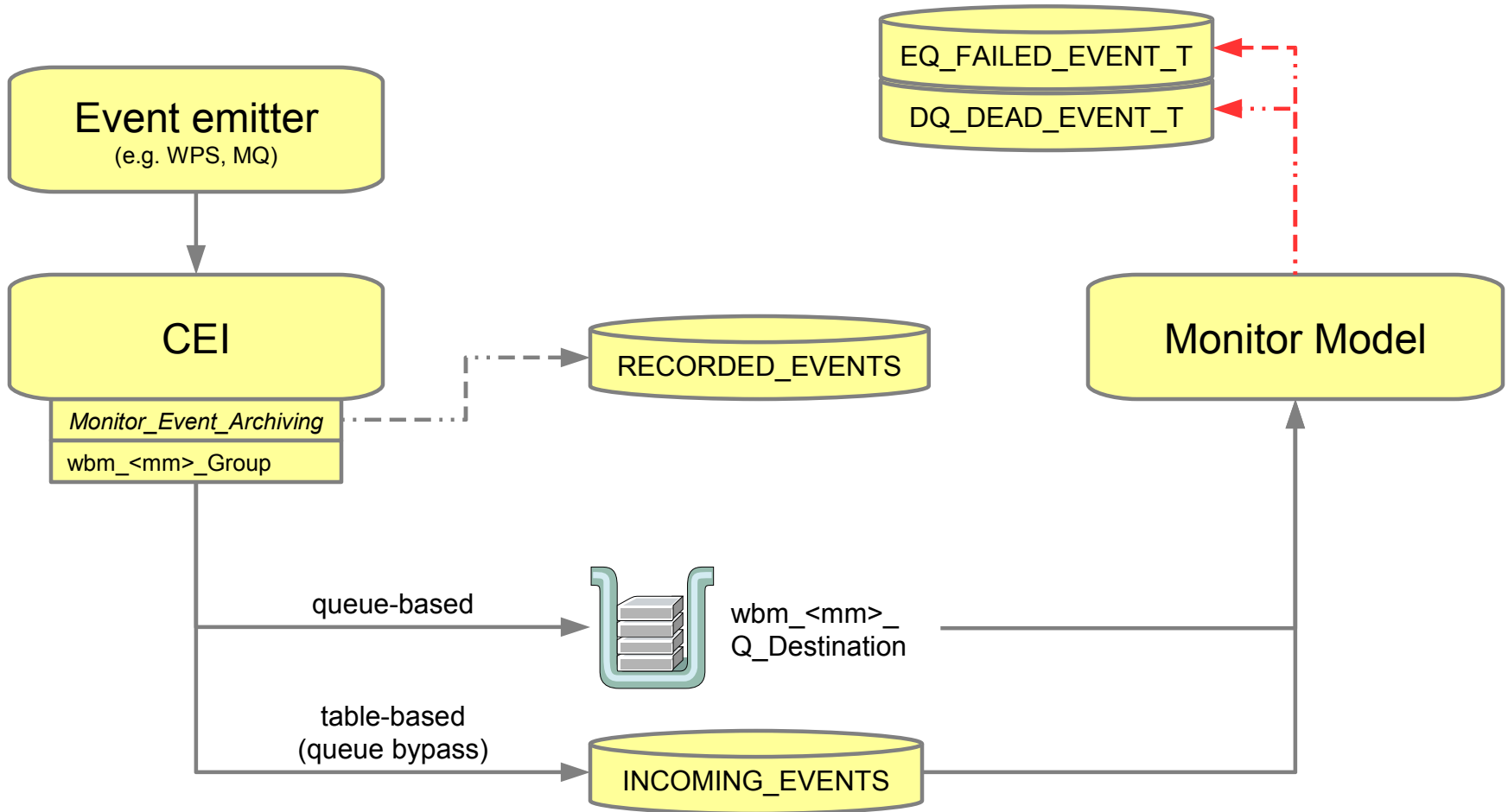
## Missing instances / metrics

- Can have many different causes
- Events were not received by Monitor Model
- Events were received in wrong order
- Instance is stopped

# Events not received

- Monitor relies on events to create/update instances
- Events can get stuck at different places
- Understanding the complete event flow is essential for troubleshooting this issue

# Events not received (cont.)



## Events not received (cont.)

- Check SystemOut.log for errors
- Enable event recording
- Events taken directly from CEI
- If event does not appear, it was not received at CEI
- Available since 6.2
- Allows exporting for Support to check

[http://publib.boulder.ibm.com/infocenter/dmndhelp/v7r5m1/topic/com.ibm.wbpm.mon.admin.recordplayback.doc/admin/help\\_rec\\_playback.html](http://publib.boulder.ibm.com/infocenter/dmndhelp/v7r5m1/topic/com.ibm.wbpm.mon.admin.recordplayback.doc/admin/help_rec_playback.html)



## Events not received (cont.)

- Check whether event group exists in CEI
- Check event selector string to be correct
- Stop model and see whether event arrives at incoming events table or wbm\_queue
- Check failed events and unrecoverable events

# Events out of order

- Error message in SystemOut.log

**CWMRT0074E:** An event was received out of order. The event will be put on the failed event queue.

Monitoring Model ID: MyMM

Monitoring Model Version: 20111125114238

Root Instance ID: 1

Current Event ID: 11

Current Event Sequence Index: 00000000000000000002

Prior Event Sequence Index: 00000000000000000003

++++ This event and related events can be managed from the failed event queue.



## Events out of order (cont.)

- Event is put on failed event queue
- Instance is halted
- Only occurs if event reordering is enabled
- Only available if all events have event sequence path defined

Monitor Models

Monitor Models > MyMM (2011-11-25T11:42:38)  
> Runtime Configuration

Use this page to tune and configure the error handling and KPI properties of this model version.

Tuning Error Handling KPI

**General Properties**

Processing Strategy

6.0.2 emulation

Scalable

**Event reordering**

Event reordering enabled

Late arrival stand off delay (seconds)

10

Apply OK Reset Cancel

## Events out of order (cont.)

- Event sequence index defines order
- Needs to be set correct in events
- Late arrival stand off delay helps to reorder events in batches
- Highest event sequence index per instance is saved for 5 minutes

<http://publib.boulder.ibm.com/infocenter/dmndhelp/v7r5m1/topic/com.ibm.wbpm.mon.admin.doc/intro/eventcorrelation.html>



# No instance found

- Warning message in SystemOut.log

**CWMRT2028W:** No instances were found for this event. This monitoring model will continue processing the current event with the next monitoring context definition.

Monitoring Model ID: MyMM

Monitoring Model Version: 20111125114238

Monitoring Context Name: MyMM MC

Monitoring Context ID: MyMM\_MC

Inbound Event Name: Update

Inbound Event ID: Update

Table Name: null

Correlation Expression: MyMM\_Key = Update/extendedData/key

Event ID: CE7C47321DF866C0A5A1E117857A0913D0

## No instance found (cont.)

- Error message in SystemOut.log

**CWMRT0095W:** No instances were found for this event. No related events will be processed until this event is successfully processed. In certain modes, this event and related events can be managed from the error queue.

Monitoring Model ID: MyMM

Monitoring Model Version: 20111125114238

Monitoring Context Name: MyMM MC

Monitoring Context ID: MyMM\_MC

Inbound Event Name: Update

Inbound Event ID: Update

Table Name: null

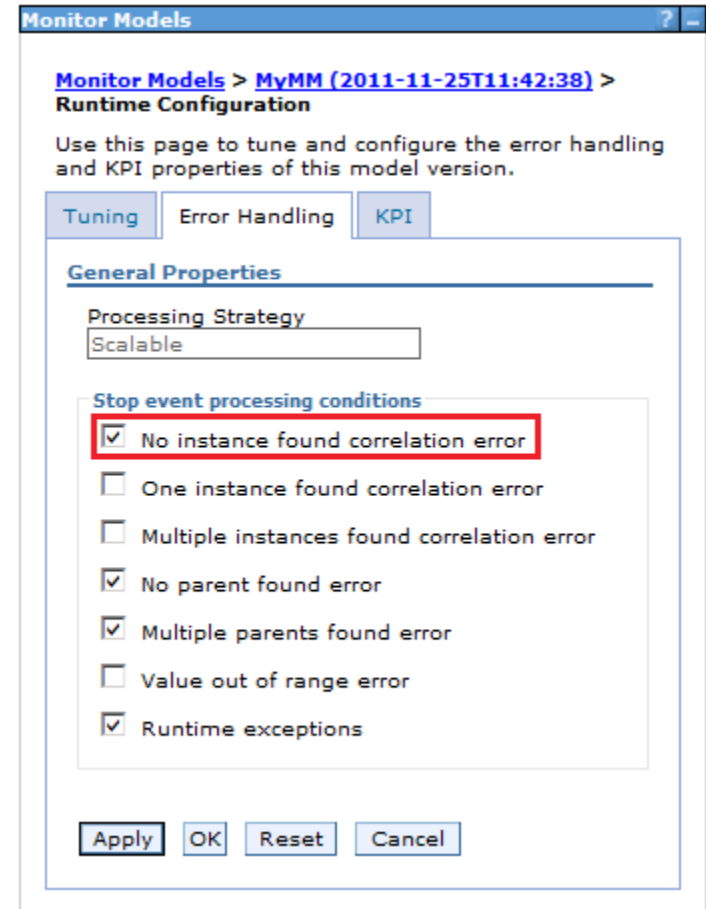
Correlation Expression: MyMM\_Key = Update/extendedData/key

Event ID: CE7C47321DF866C0A5A1E117871AE059C0

++++ Determine why there is not a correlation match.

## No instance found (cont.)

- Exact error message depends on runtime setting
- Event may be put on failed event queue
- Instance may be halted



**Monitor Models** ?

[Monitor Models](#) > [MyMM \(2011-11-25T11:42:38\)](#) > **Runtime Configuration**

Use this page to tune and configure the error handling and KPI properties of this model version.

**Tuning** | **Error Handling** | KPI

**General Properties**

Processing Strategy  
Scalable

**Stop event processing conditions**

- No instance found correlation error
- One instance found correlation error
- Multiple instances found correlation error
- No parent found error
- Multiple parents found error
- Value out of range error
- Runtime exceptions

**Apply** | **OK** | **Reset** | **Cancel**

## No instance found (cont.)

- Only occurs for events which have defined to treat this situation as an error

▼ **Correlation Expression**  
Define an expression to identify the monitoring context instance or instances that receive the event at runtime.

MyMM\_Key = Update/extendedData/key

If no instances are found	Treat as error
If one instance is found	Ignore
	<b>Treat as error</b>
If multiple instances are found	Create new instance
	Retry

## No instance found (cont.)

- Instance not yet started
  - ▶ Event was received out of order
  - ▶ Missing start event
- Instance already stopped
  - ▶ Event was received out of order
  - ▶ Incorrectly defined model



# No parent found

- Warning message in SystemOut.log

**CWMRT2031W:** No parent instance was found for this event. This monitoring model will continue processing the current event with the next monitoring context definition.

Monitoring Model ID: MyMM

Monitoring Model Version: 20111125114238

Monitoring Context Name: MyMM SubMC

Monitoring Context ID: MyMM\_SubMC

Inbound Event Name: Sub\_Create

Inbound Event ID: Sub\_Create

Table Name: null

Correlation Expression: ../MyMM\_Key = Sub\_Create/extendedData/key and  
MyMM\_SubKey = Sub\_Create/extendedData/subkey

Event ID: CEBA2F882BC1538492A1E121B44A8781D0



## No parent found (cont.)

- Error message in SystemOut.log

**CWMRT0098E:** No parent instance was found for this event. No related events will be processed until this event is successfully processed. In certain modes, this event and related events can be managed from the error queue.

Monitoring Model ID: MyMM

Monitoring Model Version: 20111125114238

Monitoring Context Name: MyMM SubMC

Monitoring Context ID: MyMM\_SubMC

Inbound Event Name: Sub\_Create

Inbound Event ID: Sub\_Create

Table Name: null

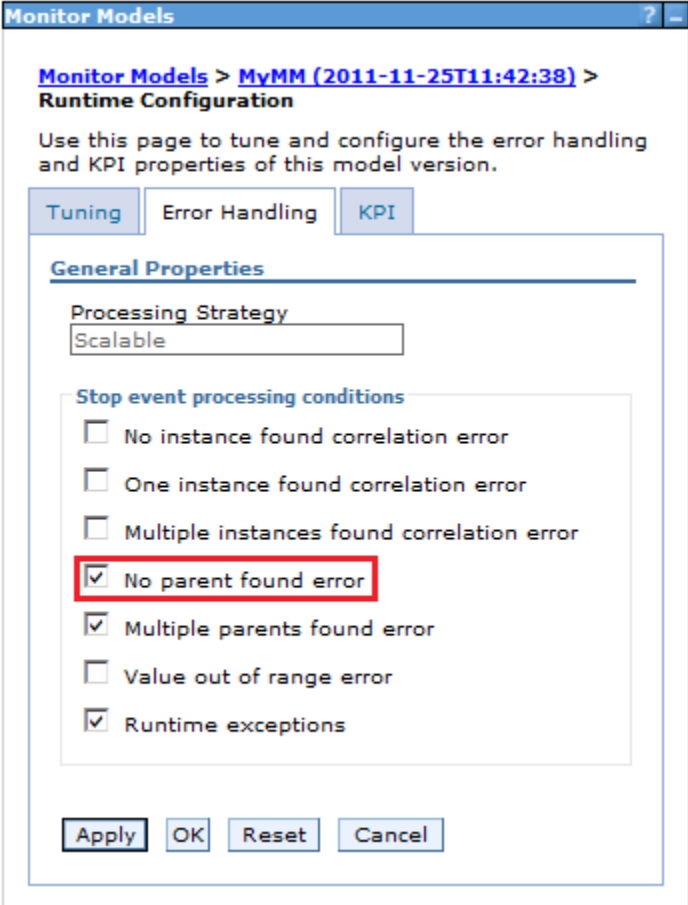
Correlation Expression: ../MyMM\_Key = Sub\_Create/extendedData/key and  
MyMM\_SubKey = Sub\_Create/extendedData/subkey

Event ID: CEE153B4DEF47B8F4DA1E11F46D23B02C0

++++ Determine why there are no parents.

## No parent found (cont.)

- Occurs for events that should create a child instance
- Exact error message depends on runtime setting
- Event may be put on failed event queue
- Parent instance may be halted



**Monitor Models** ?

**Monitor Models > MyMM (2011-11-25T11:42:38) > Runtime Configuration**

Use this page to tune and configure the error handling and KPI properties of this model version.

**Tuning** **Error Handling** **KPI**

**General Properties**

Processing Strategy  
Scalable

**Stop event processing conditions**

- No instance found correlation error
- One instance found correlation error
- Multiple instances found correlation error
- No parent found error**
- Multiple parents found error
- Value out of range error
- Runtime exceptions

**Apply** **OK** **Reset** **Cancel**

## No parent found (cont.)

- Parent instance not yet started
  - ▶ Event was received out of order
  - ▶ Missing start event
- Parent instance already stopped
  - ▶ Event was received out of order
  - ▶ Incorrectly defined model



# Recurring wait time triggers

- Warning message in SystemOut.log

**CWMRT2007W:** It took more than a third of the time based triggers check interval to evaluate the time based triggers. This might cause a performance degradation

Monitoring Model ID: MyMM

Monitoring Model Version: 20111125114238

Execution Time (so far): 181

++++ Check runtime properties to increase the time based triggers check interval.

# Recurring wait time triggers (cont.)

- Caused by performance problem
- Likely cause of performance problem
- Reconsider usage of wait time triggers
- Reconsider wait time duration needed
- Increase recurring wait-time checking interval (up to V7.0)

- Trigger is repeatable  
 Terminate monitoring context

#### ▼ Trigger Sources

Specify the source of this trigger.

Source Type	Source
Recurring wait time	0 days 0 hours 1 minutes

Add Remove

**Monitor Models** ?

[Monitor Models](#) > [MyMM \(2011-11-25T11:42:38\)](#)  
 > **Runtime Configuration**

Use this page to tune and configure the error handling and KPI properties of this model version.

Tuning **Error Handling** KPI

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**General Properties**

**Processing Strategy**

6.0.2 emulation  
 6.1 multi-threaded

**Message consumption**

Batch size:   
 Timeout (seconds):   
 Cache size:

**Event processing**

Batch size:   
 First in stand off delay (seconds):   
 Last in stand off delay (seconds):   
 Pass by value

**Event reordering**

Event reordering enabled  
 Late arrival stand off delay (seconds):

**Recurring wait-time checking interval (minutes)**

Apply OK Reset Cancel

# Summary

- Understanding the event flow is necessary
- Proper testing is the best way to avoid issues later
- Make sure you use event reordering
- Don't overuse recurring wait time triggers



# Additional WebSphere Product Resources

- Learn about upcoming WebSphere Support Technical Exchange webcasts, and access previously recorded presentations at:  
[http://www.ibm.com/software/websphere/support/supp\\_tech.html](http://www.ibm.com/software/websphere/support/supp_tech.html)
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<http://www.ibm.com/software/info/education/assistant>
- View a webcast replay with step-by-step instructions for using the Service Request (SR) tool for submitting problems electronically:  
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# Questions and Answers