

The Java BACI properties (jbaci) implementation was done some time ago, but left some stuff without proper implementation. So far, only the implementation of on-change delta_percent was found to be left out.

-  The implementation of monitoring time-based triggers is working
-  The implementation of on-change monitors is apparently implemented but needs to be double checked
-  The implementation of percentage on-change monitors seem to have been ignored
-  The implementation of alarms on ranges is apparently implemented, but needs to be double checked
-  Archival is done using the C++ MONITOR_COLLECTOR component in a non-collocated fashion

Name	Default	Description
min_timer_trig	0.001	Maximum sampling rate
default_timer_trig	1.0	Default monitoring sampling rate (Only monitors, doesn't affect archival)
archive_min_int	0.0	Minimum time between archiving events. 0 means disabled; it will be archived any time needed by delta or delta percent.
archive_max_int	0.0	Maximum time between archiving events. 0 means disabled; it will not be archived unless triggered by delta or delta percent.
min_delta_trig	0 false	Default monitoring on-change trigger (Only monitors, doesn't affect archival)
archive_delta	0 false	Value change that triggers an archiving event. 0 means disabled; it will not be archived unless triggered by time or delta percent change.
archive_delta_percent	0.0	Value percentage change that triggers an archiving event. 0 means disabled; it will not be archived unless triggered by time or delta change.

Time Triggered Archival

This terminology is used to consider the need to publish a new value after some time has passed since the last publication.

Archive Delta

This is a terminology describing the need to publish a new value the monitoring archival chain when the last monitored value has changed by more than an absolute value.

Archive Delta Percent

This is a terminology describing the need to publish a new value the monitoring archival chain when the last monitored value has changed by more than an percentage value.

Alarms

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Legend

- Events
 - A: Initial Value
 - T: Time
 - D: Delta
 - P: Percent

#1: Monitor every 5 seconds

- min_timer_trig = 1
- archive_max_int = 5
- archive_min_int = 0
- archive_delta = 0
- archive_delta_percent = 0.0

```
Time:  0 1 2 3 4 5 6 7 8 9 10
Value: 1 2 3 4 5 6 5 6 5 4 2
Event: I           T           T
```

#2: Monitor each time the value changes by 2 since last archival

- min_timer_trig = 1
- archive_max_int = 0
- archive_min_int = 0
- archive_delta = 2
- archive_delta_percent = 0.0

```
Time:  0 1 2 3 4 5 6 7 8 9 10
Value: 1 2 3 4 5 6 5 6 5 4 2
Event: I   D   D           D
```

#3: Monitor each time the value changes by 50% since last archival

- min_timer_trig = 1
- archive_max_int = 0
- archive_min_int = 0
- archive_delta = 0
- archive_delta_percent = 0.5

```
Time:  0 1 2 3 4 5 6 7 8 9 10
Value: 1 2 3 4 5 6 5 6 5 4 2
Event: I P P   P           P
```

#3: Monitor each time the value changes by 50% since last archival, but no more often than every 2 seconds

- min_timer_trig = 1
- archive_max_int = 0
- archive_min_int = 2
- archive_delta = 0
- archive_delta_percent = 0.5

```
Time:  0 1 2 3 4 5 6 7 8 9 10
Value: 1 2 3 4 5 6 5 6 5 4 2
Event: I   P   P           P
```

#4: Monitor each time the value changes by 2 since last archival, or 3 seconds

- min_timer_trig = 1
- archive_max_int = 3
- archive_min_int = 0
- archive_delta = 2
- archive_delta_percent = 0

```
Time:  0 1 2 3 4 5 6 7 8 9 10
Value: 1 2 3 4 5 6 5 6 5 4 2
Event: I   D   D   T   D D
```