Understanding Target Options for Extended Events

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What This Module Covers

Targets for capturing event data

Review the information captured by each target

Targets are event consumers

Receive either a single event, or a buffer full of events

Target Type

Basic

Aggregate
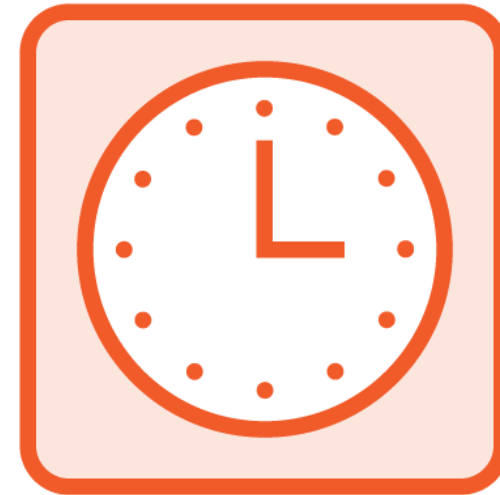
Target Timing

Synchronous

Asynchronous
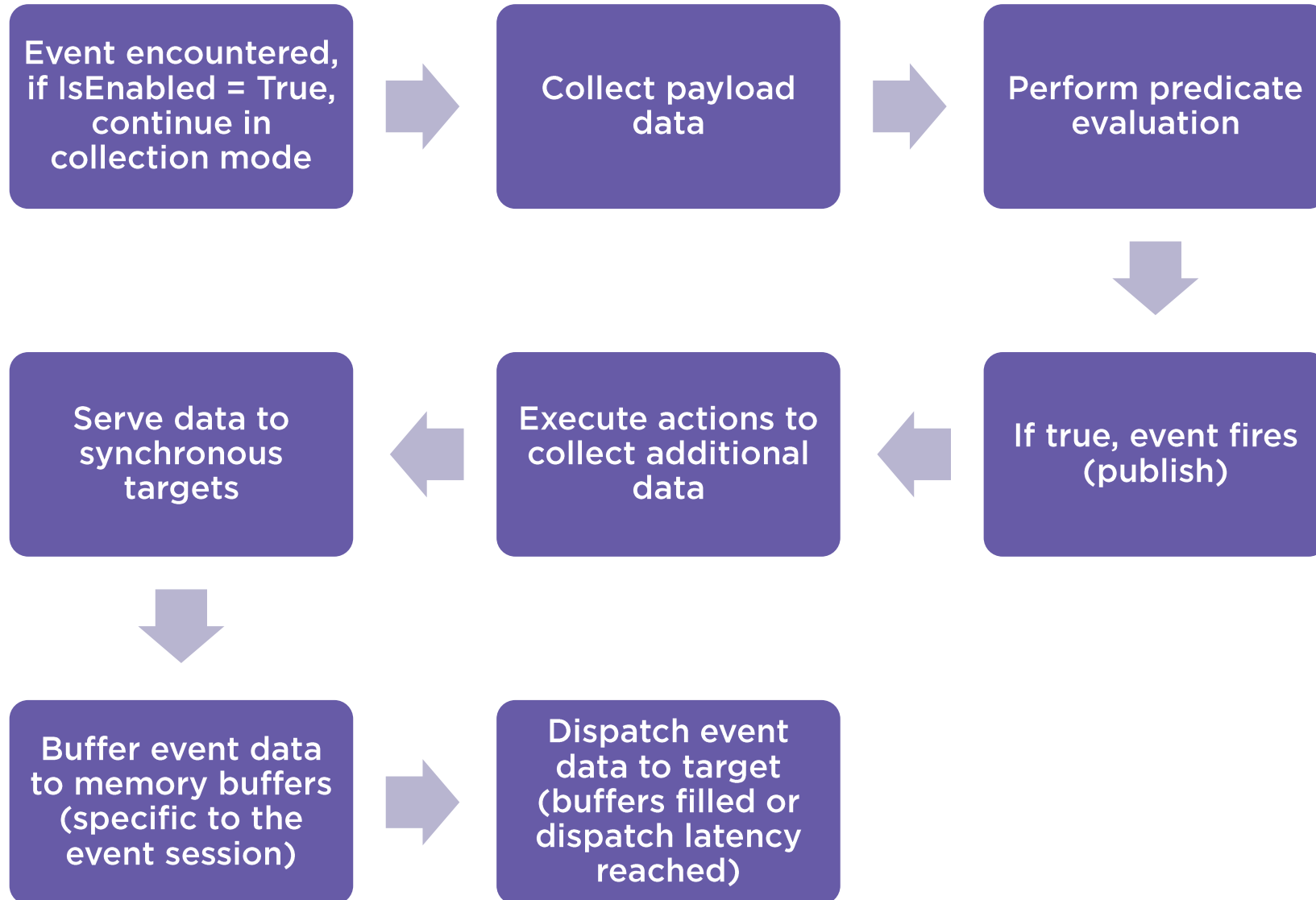
Event Dispatching

Memory buffer becomes full

Event data in the buffer exceeds the event session's MAX_DISPATCH_LATENCY configuration option

Revisiting the Big Picture

Event encountered, if IsEnabled = True, continue in collection mode → **Collect payload data** → **Perform predicate evaluation**

↓

Serve data to synchronous targets ← **Execute actions to collect additional data** ← **If true, event fires (publish)**

↓

Buffer event data to memory buffers (specific to the event session) → **Dispatch event data to target (buffers filled or dispatch latency reached)**

Event File Target

Event data is saved to a file on disk

The file can be read in the UI in SQL Server 2012 and higher
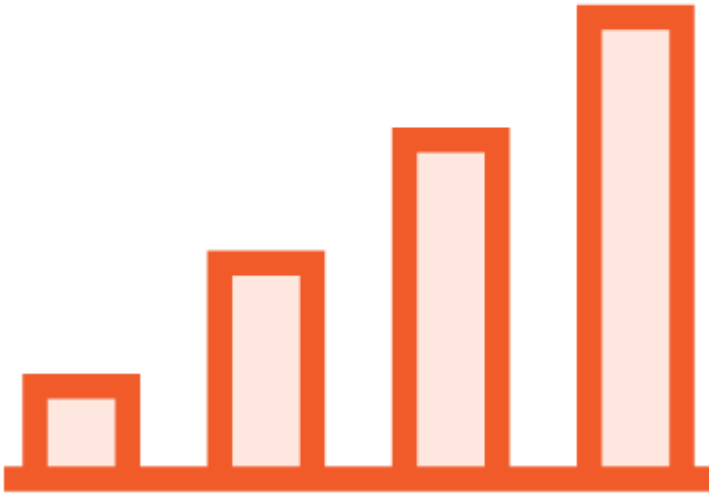
Event Counter Target

Counts the number of events that fired

Useful when initially setting up an event session, or troubleshooting an unknown workload

Synchronous target that processes on the thread that fires the event

Histogram Target

Collects events into "buckets" to provide additional analysis within event frequency

You can only "bucket" on one field

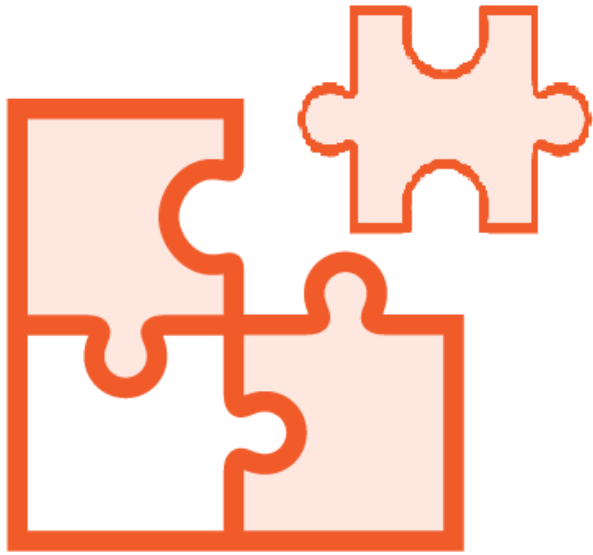Buckets (slots) should be specified with enough room to accommodate all potential values

Demo

Tracking Database File Growth Using the Histogram Target

Event Pairing Target

Captures only unmatched events

It is essential to select the proper criteria for matching, otherwise your data will not be valid

- Use TRACK_CAUSALITY and the event_file or ring_buffer target to troubleshoot

Ring Buffer Target

In-memory target that does FIFO collection

Data is materialized as XML when it's queried via sys.dm_xe_session_targets

- DMV limitations may result in unreadable XML
- See: http://bit.ly/1M37b5M

Demo

Using the Ring Buffer Target

What This Module Covered

Target options for event sessions

Information captured by each target and when each is appropriate to use