Table Node

The table node (Fig. 1) is the only example of a special (and complex) node. The table node stores events for extended periods. The number of stored events is exported as the count attribute. All events stored in the table node are exported as a list of events in the contents attribute. The events in the contents attribute can be examined by expression and condition parameters of other nodes in the circuit, and extracted by the extract node. The table node stores a single list of events (the contents) in two logical areas. The *current area* is controlled by the save until and max events parameters, and the *retained area* is controlled by the retain condition and delete condition parameters. The two areas have different mechanisms for storage. The current area is based on physical and event age limits, while the retained area is based on evaluated conditions, which typically test data values within the events.

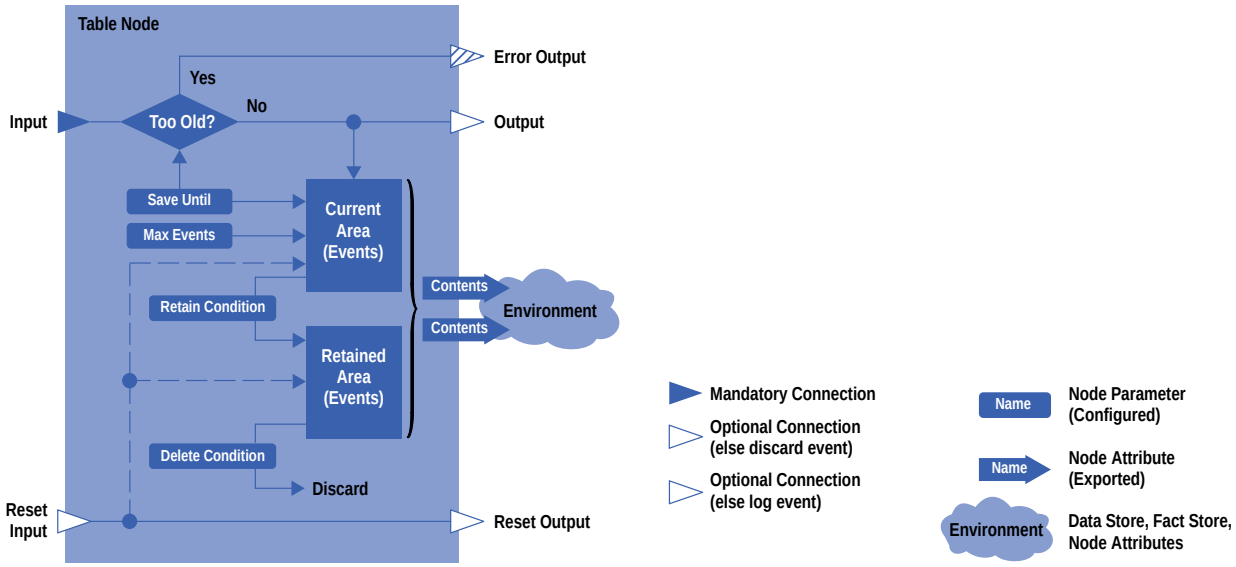

Fig. 1. *Table node.*

The current area stores each event until the creation time of the event is more than save until seconds before the current time of the correlation engine, or until the number of events in the region exceeds max events. Each event arriving at the input port is tested to see if the creation time of the event is less than save until seconds before the correlation engine's current time. If it is, the event is added to the current area (subject to the max events limit), and immediately output via the output port if connected, or discarded if the port is not connected. If the creation time of the event is more than save until seconds before the correlation engine's current time, the event is not added to the table, and is either output via the error output port if connected, or logged if the port is not connected.

When an event is to be retired from the current area (based on age or volume), the condition specified in the retain condition parameter is evaluated. This is a Boolean expression that can take the retiring event as an argument and can access any environment data from throughout the circuit. If the expression evaluates true, the retiring event is logically moved to the retained area. If the condition evaluates false, the event is discarded. Events are retained in the retained area until they meet the condition specified in the delete condition parameter. The condition is tested for all events in the retained area whenever an event arrives, or at each correlation engine clock cycle. Any event for which the condition evaluates true is silently discarded.

An event entering the reset input port causes all stored events to be silently discarded and the count attribute to be set to zero. The reset event is immediately output via the reset output port.

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