

Making the Leap From Profiler to Extended Events

Erin Stellato





<http://www.sqlskills.com/blogs/erin>

erin@sqlskills.com



Trace vs. Extended Events

Trace

- 180 events in SQL Server 2008+
- Data can be displayed in the UI or written to a file for further review/analysis
- Ability to filter on reads, duration, CPU, textdata, etc.
- Data can be analyzed with third-party tools (ClearTrace, ReadTrace, Qure Analyzer)

Extended Events

- 870 events available in SQL Server 2014
- Data can be displayed in the UI or written to a file for further review/analysis
- Ability to filter all the same columns as Trace, but also use AND/OR, and it supports short-circuit evaluation
- Data can be analyzed with third-party tools (ReadTrace)
- Significantly more options for troubleshooting complex problems
- Only method for troubleshooting new functionality (In-Memory OLTP, Availability Groups, Columnstore Indexes, etc.)

Typical Use of Trace

- **Capture a representative workload from your system to look at high-resource queries, or those that run most often**
- **Columns captured typically include:**
 - TextData
 - CPU
 - Duration
 - Reads
 - Writes
 - ApplicationName
 - LoginName

Analysis of Trace Data

- **Push the data into a table**
 - Order queries by highest I/O, longest duration
 - Try to aggregate on TextData to determine which queries execute most often
- **Use third-party tools to normalize the data and provide the same information**

Accomplishing the same thing with XE

- Create an Extended Events session that captures the same information you used to capture in a Trace
- In addition, capture `query_hash` and `query_plan_hash`
- Use the Extended Events UI for analysis
 - Aggregate on `query_hash`
 - Find average, min, and max values for CPU, I/O, etc.

Differences in Event Capture

- There is a not 1:1 relationship between the information captured by events in Trace, and the information captured by the “same” event in Extended Events
- The columns captured for an event in Trace may not be part of the default payload for an event in XE
- This information can still be captured in actions



Thank you!

