SQL Server: Replacing Profiler with Extended Events

INTRODUCTION

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What This Module Covers

Quick review of Trace

High level introduction to Extended Events

What this course will cover

SQL Trace was introduced in SQL Server 6.5 as a graphical tool

SQL Profiler was introduced in SQL Server 7.0

Basic Uses of Trace

Providing real-time insight into SQL Server activity

Capturing of queries and their resource usage

Auditing of user activity

Capture a baseline, or replaying a workload

Most frequently used for troubleshooting performance issues and errors

Why do we have to stop using Trace and Profiler?

Comparing Functionality

Trace/Profiler	Extended Events
Capture query information	Capture query information
Choose which fields to capture	Choose which fields to capture
Filter on different fields	Filter on different fields
Multiple options for data analysis	Multiple options for data analysis
	Provide multiple options for data collection
	Flexible in implementation and configuration
	Only method for tracing *new* SQL Server features

Why Do We Avoid Extended Events?

There were a lot of new features introduced in SQL Server

No GUI until SQL Server 2012

CHANGE

New vocabulary

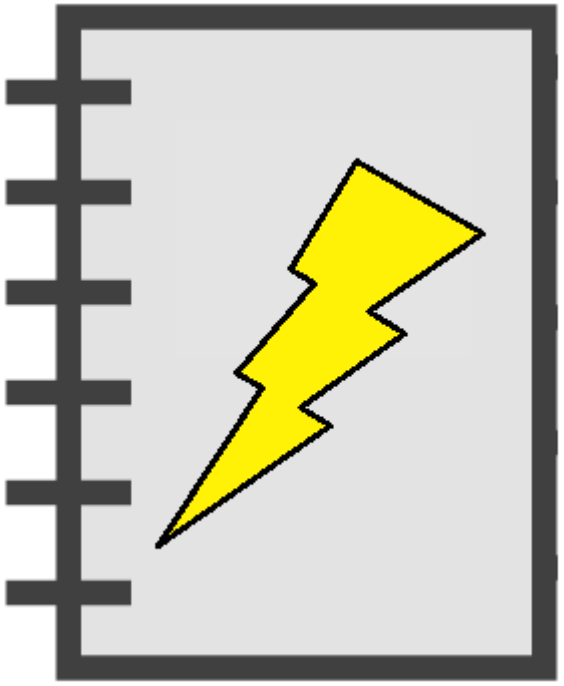
Shredding the data initially required knowledge of XML and XQuery

Extended Events

Advanced event collection infrastructure introduced in SQL Server 2008 and provided by SQLOS

Highly-flexible implementation which allows complex configurations for event collection that simplify problem identification

What Is Extended Events, *Really*?



It's a "general event-handling system for server systems"

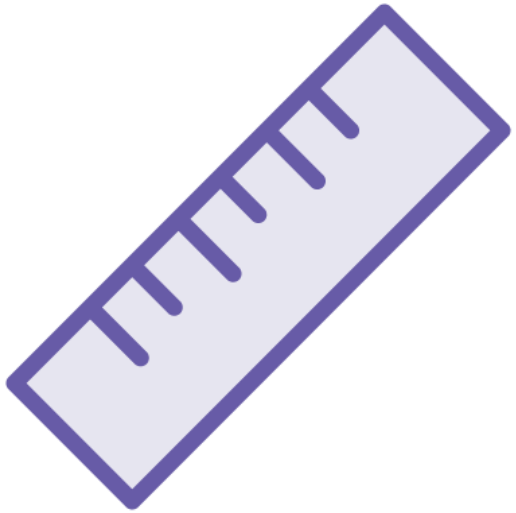
"The Extended Events infrastructure supports the correlation of data from SQL Server"

An infrastructure which provides the ability to create complex sessions to collect event information

Examples of Troubleshooting Options Available in Extended Events

Identifying stored procedures that exceed a prior maximum

Capturing first N executions of an event



Finding accumulated effect of queries using query_hash

Identifying statement timeouts/ attention events

What This Course Covers

Course Objective

Provide an initial understanding of Extended Events through existing knowledge of Trace

Details

Using a typical trace as a starting point, we'll create a comparable Extended Events session

Fundamental components of Extended Events will be defined and discussed

We will walk through how to the use the UI for analysis and review of captured data

What This Course Covers

Course Objective	Details
Provide an initial understanding of Extended Events through existing knowledge of Trace	Multiple targets exist to which data can be written
Explain different target options, and examples of use, for Extended Events	Understanding what each information each target collects, and where data is located, is essential in determining which target to use

What This Course Covers

Course Objective	Details
Provide an initial understanding of Extended Events through existing knowledge of Trace	
Explain the different target options, and provide examples of use, for Extended Events	
Review potential performance issues which can occur with Extended Events	It is possible to create a performance issue in SQL Server with a poorly defined event session

Course Focus and Structure

Module 2: Transitioning from Profiler's UI to Extended Events

Module 3: Leveraging the Extended Events UI

Module 4: Understanding Target Options for Extended Events

Module 5: Avoiding Performance Issues with Extended Events

What This Module Covered

Basics of Trace and Extended Events

What this course will cover

Course structure