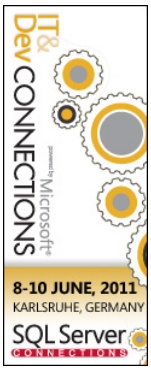

DBA Tools: sp_whocpu

By Mircea Nita, 2010/04/14

In recent years I often needed to quickly identify the processes that consume the most CPU on the server in real time, without settin up traces.

If you try to run sp_who2 and base your investigation on the *CPUTime* listed there, you will find that the processes showing the highest figures, might not be in fact those that consume the most CPU in real time.

This is because sp_who2 displays the total CPUTime accumulated since the connection was established, therefore sp_who2 can show high CPUTime ficures, which do not reflect the current activity on the server.

In order to get an indication on the real time CPU for the user processes, I have modified the sp_who2 stored procedure to include a new metric.

The result is called ***sp_whocpu*** and in addition to the usual columns returned by sp_who2 it contains a new metric that I introduced, called **CPU_Delta**.

The CPU_Delta is calculated by sampling the CPU readings over a period of time, and returns accurate figures in milliseconds about the CPU activity per process. I found that setting the sampling period at 3 seconds is a good choice for calculating the CPU_Delta.

Like in any sampling process, increasing the sampling period and the number of samples taken would increase the accuracy. However, three seconds is a period that I found suited for this, as it is also the time you have to wait before getting any output from *sp_whocpu*.

The stored procedure ***sp_whocpu*** orders the output by **CPU_Delta** in descending order, therefore making it easy to rapidly identify the top CPU consumers on the server.

The *CPU_Total* time is the same figure as the one returned by *sp_who2* which appears listed there as just CPUTime. The **CPU_Delta** figure is the CPU time consumed within the 3 seconds sampling period.

```
Command          CPU_Total CPU_Delta DiskIO LastBatch
---------------- --------- --------- ------ --------------
UPDATE           68078     1500      24769  03/29 13:01:21
AWAITING COMMAND 53231     1438      5099   03/29 13:01:22
AWAITING COMMAND 335737    969       104436 03/29 13:01:21
SELECT           210489    874       29185  03/29 13:01:21
SELECT           250403    234       21969  03/29 13:01:22
AWAITING COMMAND 30831     187       461    03/29 13:01:20
AWAITING COMMAND 276579    125       11439  03/29 13:01:20
```

From the figure above you can immediately see that the process having the highest CPU at the time of the investigation, is not the process that has the highest accumulated cpu (CPU_Total). It would be therefore impossible to determine the highest momentary CPU only based on what the standard sp_who2 returns.

I hope that ***sp_whocpu*** is going to prove as useful to you as it is for me in investigating performance issues.

```
use master
go
if exists (select * from master.dbo.sysobjects where id = object_id
  Drop Procedure dbo.sp_whocpu
go

/*====================================================================
-- Mircea Anton Nita - 2010
-- https://www.mcpvirtualbusinesscard.com/VBCServer/Mircea/card
====================================================================
Create Procedure dbo.sp_whocpu
   @dbname sysname = null,
   @loginame sysname = null
as

set nocount on

declare
   @retcode int
  ,@sidlow varbinary(85)
```


By Mircea Nita, 2010/04/14
Total article views: 2445 | Views in the last 30 days: 38

Related Articles

FORUM **sp_who2**
sp_who2

FORUM **CURSOR READ SP_WHO2**
CURSOR READ SP_WHO2

FORUM **Delta Load in SSIS**
Delta Load in SSIS

FORUM **sp_who2, Command = NOP**
in sp_who2, what is command = NOP

FORUM **sp_who2 results show one spid 24 times**
Results of sp_who2 shows ~24 lines for one spid

Tags

cpu_delta metric
real time cpu
sp_whocpu