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DBA Tools: sp_whoio
By Mircea Nita, 2010/04/12
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I have been faced many times with situations where I needed to quickly identify the processes that are
the most I/O intensive on the server in real time, without setting up traces.

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

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

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

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

The DiskIO_Delta is calculated by sampling the DiskIO over a period of time, and returns accurate
figures in milliseconds about the Disk I/O activity per process. I found that setting the sampling period at
3 seconds is a good choice for calculating the DiskIO_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
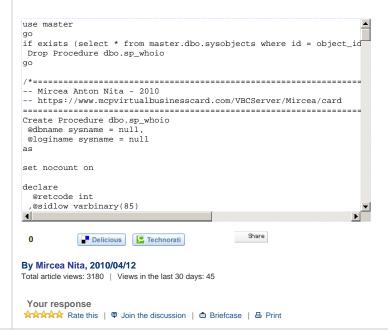time you have to wait before getting any output from *sp_whoio.*

The stored procedure **sp_whoio** orders the output by **DiskIO_Delta** in descending order, therefore
making it easy to rapidly identify the most intensive DiskIO processes on the server.

The *DiskIO_Total* is the same figure as the one returned by *sp_who2* which appears listed there as just
DiskIO. The **DiskIO_Delta** figure is the I/O activity recorded within the 3 seconds sampling period.

```
Command          CPUTime DiskIO_Total DiskIO_Delta LastBatch
---------------- ------- ------------ ------------ ----------------
SELECT           625     26001        25985        03/29 12:53:35
DROP TABLE       10844   266          39           03/29 12:53:36
AWAITING COMMAND 2221    49           24           03/29 12:53:35
AWAITING COMMAND 271606  51013        15           03/29 12:53:34
AWAITING COMMAND 304420  12338        12           03/29 12:53:36
```

From the figure above you can immediately see that the process having the most intensive I/O at the
time of the investigation, is not the process that has the highest accumulated disk I/O (DiskIO_Total) . It
would be therefore impossible to determine the highest momentary disk I/O only based on what the
standard sp_who2 returns.

I hope that **sp_whoio** 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_whoio
go

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

set nocount on

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

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