**SQL Server Performance Triage during an outage**

**Instance Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Triaged By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date and Time: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**1) Can you connect ?**

Connect to SQL Server and run:

SELECT name, user\_access\_desc, state\_desc, log\_reuse\_wait\_desc

FROM sys.databases;

Did you connect successfully? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Anything notable in returned columns? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Problems connecting?

Try the dedicated admin connection

**2) Who’s running?**

Gather key pieces of information using sp\_whoisactive:

EXEC dbo.sp\_whoisactive;

Did you run this successfully? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How many rows did it return? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Was blocking present? (blocking\_session\_id column)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3) What does sp\_BlitzFirst say?**

Check activity over a short sample using sp\_BlitzFirst:

EXEC dbo.sp\_BlitzFirst @ExpertMode=1, @Seconds=10;

Did you run this successfully? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Did it find running queries? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Did it make a diagnosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4) Identify root cause of blocking (if present)**

If there’s blocking, save off the sql\_text from the root query of the blocking. Get a

screenshot that records the runtime, host name, and other relevant information from

sp\_whoisactive.

If you didn’t catch it in time, consider setting up alerts or the Blocked Process

Report.

**5) What’s SQL Server’s Error Log tell you?**

SQL Server Management Studio: ‘Management’ **➔** ‘SQL Server Logs’.

Or query the log with this command:

EXEC xp\_readerrorlog @p1=0, @p2=1

Check all logs since at least the last startup and just prior.

(Use @p1=2, @p1=3, etc to access prior logs.)

• Any recent errors/login failures?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

• When was the last startup? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

• Was the last restart planned?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6) What’s the Windows Event Log got to say?**

Are there events in the windows logs at the same time or just before the problem

periods?

System log: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Application log: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Security log: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Remember, particularly in the system log, informational events may help explain

errors you’re seeing. *Don’t filter and look at ONLY errors all the time!*

**7) Capture SQL Server Activity to a Table**

Run sp\_BlitzFirst in a loop to log activity to a table. This gathers data while you

keep looking.

Activity is being captured to the table: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

EXEC sp\_BlitzFirst @OutputDatabaseName = 'DBAUtility’,

@OutputSchemaName = 'dbo', @OutputTableName = 'BlitzFirstResults'

(If you use this option, make sure to clean up old data from that table!)

**8) Capture SQL Server Overall Waits**

Find the top three SQL Server waits in sys.dm\_os\_wait\_stats by percent since the

last restart

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Or find high waits captured by sp\_BlitzFirst within 15 minutes of a time (if you were

running it in a loop):

EXEC sp\_BlitzFirst @AsOf = '2013-10-15 18:45', @OutputDatabaseName =

'DBAUtility', @OutputSchemaName = 'dbo', @OutputTableName =

'BlitzFirstResults'

**9) Review Performance Counters**

Look at performance counters (and, ideally, their history) to identify system

performance patterns and problems.

Performance counters checked? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Notable counter info : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

More info: http://BrentOzar.com/go/perfmon

**10) Make an assessment by major areas. Can you identify a**

**bottleneck specific to one of these?**

CPU: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Memory: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Network: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Disk: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**11) Identify Recent changes**

Have there been recent changes in these areas?

App Tier: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stored procedures:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Schema changes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Index changes:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Major data changes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Infrastructure changes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Maintenance changes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SQL config changes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Windows config changes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**References:**

Adam Machanic created sp\_whoisactive:

http://sqlblog.com/blogs/adam\_machanic/default.aspx

**SQL Server performance triage**

1. The server is down, not responding to queries
2. The server is going to go down in minutes if we can’t fix the problem quickly
3. The entire server is in bad shape, but will survive today whether we fix the problem or not
4. Some parts of the some applications are unusually slow
5. User’s report/queries are running unusually slow
6. Users’s report/queries are running just like it did yesterday: slow

**Triage Tools in order:**

1. Monitoring software(Idera SQLdm)
2. sp\_WhoisActive
3. sp\_BlitzFirst
4. sp\_BlitzCache
5. sp\_BlitzIndex
6. sp\_Blitz

Use the above process in reverse order in non-emergency situations to look for performance tuning opportunities.

**Fill this out**

The symptoms are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

I believe the root cause is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

If we don’t take action now, the effect will be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

I recommend that we:

* Take action\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_now to fix it, or
* Take action\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_to investigate further, or
* Put this in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_queue.