What if no one is monitoring your DB server?

Charlie Arehart
IntotheBox 2020

A day in the life...

Charlie Arehart, @carehart
carehart.org

...bad news

Worse news…

What would you do?

- Have you got any sort of CF monitoring?

- Would you try a query tool?

Charlie Arehart, @carehart,
carehart.org

Do you have a DBA?

...a helpful DBA?

Charlie Arehart, @carehart
carehart.org

Could you use some help monitoring your DB?

- There are tools (free/paid) for most DBs to tell you:
    - What's going on in the DBMS (and in the server it's on)
    - Whether and how long db requests have been running
    - Whether OTHER requests may be the real cause
    - Why requests are running slow
    - What was running at a point in time in the past
    - And more

Charlie Arehart, @carehart
carehart.org

…but what about …?

- The DBMS you use
- Your architectural complexity (or not)
- Installing on the DB server (or not)
- The cost of such tools (or none)
- Tools do little to help (or offer too much)
- "Not my job"

Charlie Arehart, @carehart
carehart.org

On to the tools...

Charlie Arehart, @carehart
carehart.org

Considering CF/Lucee monitoring tools

- cfstat, perfmon, getmetricdata()
- CF metrics log
- FusionReactor? SeeFusion?
- CF server monitor or PMT?
- NewRelic, Datadog, Appdynamics, etc?

Considering MySQL/MariaDB/Aurora/RDS

- Built-in tools
  - show processlist
  - slow query log
    - find its file name, whether enabled
    - show global variables like '%slow%'
    - can VIEW it within mysql workbench "server logs"
  - mysqldumpslow (perl script)
  - Performance_schema (database, and reports in MySQL Workbench)
  - MySQL Enterprise Monitor (ent only)

Considering MySQL/MariaDB/Aurora/RDS

- 3rd party tools
  - Idera SQL Diagnostic Manager
  - PMM: Percona Monitoring and Management
  - Quest Foglight
  - Solarwinds DPA
  - Solarwinds DPM
  - plugins in tools like NewRelic, Datadog, etc.
  - and others

Considering Postgres/Aurora/RDS

- Built-in tools
  - No equiv to show processlist
  - But available pg_stat_activity table
  - Available pgadmin (open source)
  - Available pg_top (open source)

Charlie Arehart, @carehart
carehart.org

Considering Postgres/Aurora/RDS

- 3rd party tools
  - PMM: Percona Monitoring and Management
  - Quest Foglight
  - Solarwinds DPM
  - plugins in tools like NewRelic, Datadog, etc.
  - and others

Considering SQL Server/Azure SQL DB/RDS

- Built-in tools
  - SQL Svr Mgt Studio
    - Activity Monitor, "Recent expensive queries" since 2014
    - Available Reports
    - Query Store (since 2017)
- Dynamic Mgt View's
- Profiler/Traces
- Extended Events

Charlie Arehart, @carehart
carehart.org

Considering SQL Server/Azure SQL DB/RDS

- 3rd party tools
  - Database Health
  - Idera SQL Diagnostic Manager
  - Quest Foglight
  - Quest Spotlight and Spotlight Cloud
  - Sentryone Sql Sentry
  - Solarwinds DPA
  - SQL Grease
  - VRoom SQL
  - plugins in tools like NewRelic, Datadog, etc.
  - and others

Others

- Oracle/RDS
- DB2
- Nosql DBs (Mongo, Redis, etc.)
- And so on

Charlie Arehart, @carehart
carehart.org

Factors that can influence DB performance

- Commonly cited problems and solutions
  - blocking/deadlocking
  - problems with indexing
  - problems with statistics
  - problem with plan cache poisoning
  - reporting queries happening against production transactional data

Factors that can influence DB performance

- Commonly cited problems and solutions
  - blocking/deadlocking
  - problems with indexing
  - problems with statistics
  - problem with plan cache poisoning
  - reporting queries happening against production transactional data

Factors that can influence DB performance

- Less commonly cited problems and solutions
    - requests coming from OTHER than CF or Lucee
    - other processes within the DB that are NOT requests
        - index rebuilds, backups, etc
    - other processes on the machine affecting DB server
        - whether causing high cpu, high memory, high disk io
    - other processes causing disk contention
        - a/v tools
        - network issues impacting DB resources on san/nas
            - perhaps due to logging, if not the DBs themselves
    - DBMS on a vm that's on an over-subscribed host

Charlie Arehart, @carehart
carehart.org

Conclusion

- Lots of tools, most free, some well worth their cost
- Some hope for the future
  - DB's getting smarter, doing more in way of self-healing
- My list of DB monitoring tools, and more
  - https://www.cf411.com/dbmon
- Let me know if I can help in any way
- Presentation online at carehart.org/presentations
- Time for questions?