What if no one is monitoring your DB server?

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IntotheBox 2020
A day in the life…
...bad news
Worse news...
What would you do?

• Have you got any sort of CF monitoring?
• Would you try a query tool?
Do you have a DBA?

...a helpful DBA?
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

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...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”
On to the tools...
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)
Considering Postgres/Aurora/RDS

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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

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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

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Others

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

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Factors that can influence DB performance

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  • 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
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?