

AimBetter

Version 2.0.18.3

AimBetter is pleased to bring you this release document with details of our new version v.2.0.18.3

Highlights

- Alerts – 14 new and 2 Priority changed.
- Performance – 7 new database, 1 new host and 17 new MSSQL metrics
- System improvements
 - Improved query tracking algorithm
 - Agent & Web Application – improve response time
 - SQL Server Jobs data – Support RDS and Fix SQL Server on prime algorithm

Important Note: In order for the new release to be fully functional at your site, it is necessary to run the newest version of the AimBetter Agent. Visit our webpage at <http://update.aimbetter.com>, download AimBetter_2_0_18_3_1.zip and install.



Alerts

- **2 Changes:**

Blocking and Open Transaction Query - These alerts will be now displayed on the dashboard in **red**, and the alert by mail will be sent as **red** (critical) alert. Previously, these alerts were informational only, colored **blue** on the dashboard.

- **14 New alerts:**

Memory Free Percentage – Measures the ratio of available memory to the total. Low free memory indicates that processes or programs are depleting memory resources. This situation may result in poor system performance. You should investigate which processes are using most memory. *Higher is better*. See our detailed explanation of this alert [here](#)

Disk available percentage – Measures the ratio of available space to the total storage. Low free disk space can result in total system failure if data files (especially log and tempDb files) cannot grow. *Higher is better*. See our detailed explanation of this alert [here](#)

Database Healthy - Measures the status of the ALLWAYSON reading between clustered data stores. Two states are possible: 'Healthy or 'Not Healthy. Will become an alert if status becomes 'Not healthy'. See our detailed explanation of this alert [here](#)

Network Latency - This alert means that the network traffic is taking longer times to complete. *Lower is better*. See our detailed explanation of this alert [here](#)

Network Jitter - Jitter is the amount of variation in latency. This alert means that the network cannot keep up with the traffic load at the rate that the programs demand. **Lower is better**. See our detailed explanation of this alert [here](#)

Disk Read/Write Response Times- An alert means data is taking longer to be read from or written to a physical storage. *Lower is better*. See our detailed explanation of this alert [here](#)

Database status - Status of the SQL database is SUSPECT. May be result of corruption, loss of operational access or damage. SQL will try to restore the integrity, but meantime the database cannot be accessed. See our detailed explanation of this alert [here](#)

CPU Core - The percentage level of the process's usage of the processor for each core. Indicates CPU load from SQL activity. *Lower is better*. See our detailed explanation of this alert [here](#)

Data Growth – Increase in data file size. An alert means data size has grown beyond the threshold. See our detailed explanation of this alert [here](#)

Log Growth - Log file size is highly dependent on level of activity, on database backup being performed correctly and on level of query anomalies (blocking/long query etc.) that may be causing large temporary log growth. An alert means log size has grown beyond the threshold. See our detailed explanation of this alert [here](#)

SQL User Connections – Counts the number of users concurrently connected to SQL Server per minute. See our detailed explanation of this alert [here](#)



SQL Batch Request - The number of update, insert, delete or read operations performed in SQL per second. See our detailed explanation of this alert [here](#)



Performance - New Metrics

- **DB – 7 new metrics:**

Mirror status graph – The status of the mirror replication – can be useful to pinpoint the time point when synchronization mode changes, as a way to investigate causes of any problems. Able to graph last 24 hours plus specific historical data.

- 0 - Unsynchronized
- 0.5 - Synchronizing mode
- 1 - Synchronized

AlwaysOn graph - The status of the cluster replication – can be useful to pinpoint the time point when synchronization mode changes, as a way to investigate causes of any problems. Able to graph last 24 hours plus specific historical data.

- 0 - Unsynchronized
- 0.5 - synchronizing mode
- 1 - Synchronized

AlwaysOn log records not committed at secondary – in AlwaysOn, the graph will show the number of logs that haven't been committed at the secondary server. Indicates of status of queues on the secondary server. *Lower is better.*

AlwaysOn log records waiting to send to secondary - in AlwaysOn, the graph will show the number of log that haven't yet been sent to the secondary server. Indicates of status of communications between servers. *Lower is better.*

Mirror server name - the name of the mirror database. Only relevant for database mirror replication. On each side, we get the name of second server (database mirror supports one replica).

Mirror mode - the role of each node. Can be 'PRINCIPAL or 'MIRROR. Only relevant for database mirror replication.

AlwaysOn mode - the role of each node in a cluster. Can be 'Primary' or 'Secondary'. Only relevant for AlwaysOn replication.

- **Host – 1 new metric:**

Memory free % - The ratio of physical memory free in the system as percentage of total RAM. Can be a better gauge than absolute free space. *Higher is better.*

- **MSSQL – 17 new metrics:**

tempdb free space kb - Reports the amount of space (in kilobytes) available in tempdb. There must be enough free space to hold all new temporary objects created in this instance of SQL. Low values can affect the success of queries. *Higher is better.*

Session CPU wait - displays the number of SQL Server session waiting for CPU. *Should be 0.*



Session Memory wait - displays the total number of SQL Server session that are waiting to be granted workspace in the memory. *Should be 0* - this indicates that in your server there are no processes which are waiting for RAM to be assigned to it.

Lazy Writes/sec - number of time pages flash from memory to disk. Data save on LDF file Move to MDF/NDF File. High value can indicate low memory.

Index full Scans/sec - Number of full scans per second. *Lower is better.*

Index page Splits/sec - Number of page splits per second that occur as the result of overflowing index pages. *Lower is better.*

Transactions/sec - how many open transactions per second. *Lower is better.*

Connection reuse/sec - Measures count of application which close reader and exit. Connection is reused for other operation / close connection.

Logins/sec- Total number of logins started per second. *Should be constant or only changing slowly.*

Logouts/sec- Total number of logout operations started per second. *Should be constant or only changing slowly.*

Create temp table / variables- If there is a very high rate of workload trying to create and drop temporary tables, this can lead to ddl contention in the tempdb system catalog and throttle the workload throughput. This metric reports the number of temporary tables/table variables created per second. *Lower is better.*

The following metrics are informational only

Cluster active name - Only relevant in clustered environment.

Cluster nodes down - the number of nodes that are not activated. Only relevant in clustered environment.

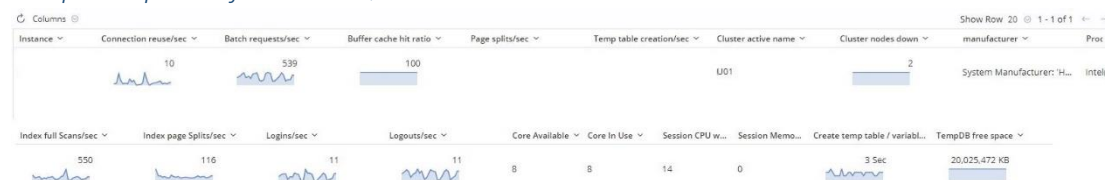
manufacturer – Name of the system manufacturer

processor – Identifies the logic circuitry that responds to and processes the basic instructions that drive a computer.





Core in Use - The number of cores that are in use.




Core Available - The number of cores





Sample snapshot of new MSSQL metrics



Snapshot of new DB metrics relating to cluster status.

Instance	Database	Mirror status	Mirror status graph	Mirror server name
DB-01	WHDB	SYNCHRONIZED	 1	DB-02
DB-01	Server 02	SYNCHRONIZED	 1	DB-02
DB-02	Server 02	SYNCHRONIZED	 1	DB-01
DB-02	WHDB	SYNCHRONIZED	 1	DB-01

Always on graph	Always on Log records not co...	Always on log records waiting ...	Always on mode
 1	 0	 0	secondary

Always on state	Always on health	Always on graph	Always on Log records not co...	Always on log records waitin...	Always on mode
SYNCHRONIZED	HEALTHY	 1			primary
SYNCHRONIZED	HEALTHY	 1	 0	 0	secondary



System improvements

- **Improved query tracking algorithm**

AimBetter has introduced an improved query performance analysis tool in this version. In standard design, queries that are running inside a loop run as individual batch commands (FETCH + unique parameters). In typical applications such as ERP, there may be thousands of iterations inside the loop. While each individual batch may execute quite quickly (maybe milli-seconds), the whole loop from start to end may take several seconds or more. In other monitoring tools (such as Profiler), there is no way to examine the actual query, and there is much more need for extra time and effort to understand why the delay in completion is happening. Now in AimBetter monitor, the QAnalyzer can show all relevant components of the query, including the plan being used, and could offer both explanation for the behavior and possible changes (for example, coding or new indexes) that could reduce execution time.

- **Agent & Web Application – improved response time**

Response times are more sensitive in the AimBetter agent, enabling retrieval of metrics both more accurately and with greater sensitivity to change.

Web application speed has been improved, to give better response times to users of dashboard monitor.

- **SQL Server Job**

- **Job failed** – We fixed a bug in the application, so that we now show all kinds of job failure at the server. See our detailed explanation of this alert [here](#)
- **RDS** - Agent is now supporting SQL jobs data.

