

AimBetter Database Monitor - Version 2.0.18.4

AimBetter is pleased to bring you this release document with details of our new version v.2.0.18.4

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.

Click on the following link to download the latest version

https://update.aimbetter.com/aimbetter_agent.zip and install.

Highlights

- 9 new [Alerts](#)
- 8 new [Performance DB](#) metrics
- 2 new [Query](#) filters
- 3 new Expert Support team watchpoints
- 1 new Observer metric
- 3 new Observer [DB Backup](#) metrics
- New optional service – [Connections](#)
- [Announcement](#) of planned future features.

Alerts

9 New alerts:

Exceptions

Syntax exception - may occur if SQL Server cannot execute a command (INSERT or UPDATE or DELETE etc). For example, if a table name is incorrect, the server would report "SQLServerException: Incorrect syntax near ---".

Overflow exception - doing arithmetic conversions between data types can result in overflow (for example, converting data type Float into Integer if the result exceeds the upper limit).

Foreign key exception - means that a new key being inserted/updated in the parent table does not also appear in another table that is designated as the child.

Convert exception - conversion between different data types (string to number, string to date) can fail. (For example: data form 'datetime' is more restrictive and will throw an exception if the input does not exactly match the expected format.)

Duplicate key exception - SQL Server cannot insert a duplicate key in a table designated as having unique index of the key field.

Permission violation - can occur when executing stored procedures if permission has not been granted for the user.

Table corrupted exception - SQL Server may report that a table cannot be accessed.

Null exception - reported if an INSERT or UPDATE command is trying to add a NULL value into a table/column where the definition of the column does not allow NULL value.

Parameter exception - may occur if the parameter count in a command (INSERT/UPDATE) does not match the values supplied. (Our suggestion - Stored procedures have the ability to pass parameters and handle the differing requests that are made.)

New Performance Metrics

DB – 8 new metrics:

Mirror Log records not committed at secondary - total show the number of logs that currently remain to be applied to the mirror database to roll it forward. Indicates of status of queues on the mirror server. This metric is sent from the Mirror to the Principal. *Lower is better.*

Mirror log records waiting to send to Secondary - total show the number of logs that have not yet been sent to the mirror server. Indicates of status of communications between servers. *Lower is better.*

Mirror status - shows the wait state. Important in understanding growth in mirror queues.

Unsynchronized – no connection, or server is paused

SYNCHRONIZING/ASYNCHRONIC – depends on mirror type. Cannot do failover until all log records are written.

Synchronized – no log records waiting, failover will be performed without waits.

If the system remains unsynchronized for three hours without change, a Critical alert is shown.

AlwaysOn Group name - informational - the name of a set of databases on the server that are synchronized in AlwaysOn. For example, if there are 20 databases in total: 10 in group AGG1 on server node SQL1 and 10 in group AGG3 on SQL2. With a single click, the read/write transfer of AGG1 to SQL2 is performed.

File stream Growth - indicates the latest FILESTREAM size in megabytes. Lower is better.

File stream drive - indicates the physical drive containing the FILESTREAM for unstructured data (for example – drive G:)

Log drive - indicates the physical drive containing the database log file (for example – drive E:)

Data drive - indicates the physical drive containing the database files (for example – drive D:)

Queries

New Query Filters

These situations should be taken as indications that some programming changes are required. For your information, we can help you as an additional service to make changes that improve your performance on queries marked as problematic.

Missing Index - reports any query that executed without the nominated index

Plan Warning - reports cases of Cartesian JOIN. This has special relevance for Priority – table joins can associate a row even though the keys mismatch (cartesian WHERE 1=1)

Observer

New alert

Log reuse wait

SQL Server might report when it cannot truncate the transaction log, which results in a growing log file. If the database is in full recovery model, the virtual log files cannot be reused if they have not yet been backed up.

It is rare to see such an alert and if so it will appear on the main alerts screen as well as in the overview of the observer. There are multiple possible causes - let us help you to diagnose and repair.

New special checkpoints performed by Expert Support team

These functions are not part of AimBetter's regular monitoring, but require specialized scripts run by our team periodically. If they are notified of any of the following situations, they can alert you via email.

Unsuccessful backup

Did we have any information that a backup was created - that is, the job BACKUP was successfully completed but the backup is invalid

Log backup from multi source

Indicates log backup TRN = LDF FILE database is made from two different sources. This will result in SQL Server's technical inability to recover from a single data source (will need to consolidate backup files from different sources - not always possible)

Log backup size

We monitor the size of the log and check whether the size is unusual.

- A. Relative to past backups (according to customer history)
- B. Relative to other companies (relative to the companies' database size)

DB Backup - new metrics

Damaged - flag indicates whether backup file is corrupted (true/null)

Compressed – flag indicates whether the backup is compressed (true/null)

Position - position flag indicates the position of this file in the backup set. If it is not number 1 it can cause a problem in the reconstruction of systems / LOG SHIPPING.

New feature

Connections

AimBetter now lifts the lid on the inner workings of your database environment, allowing you to selectively test and measure how the various physical and logical components are connecting.

This new feature monitors the level of communication to physical elements of your infrastructure (Files/Network) and logical elements (Website/Database). As well, it can keep a watchful eye on outside connections that are essential to your business process, such as financial services (credit card payment, credit checking, PayPal etc.), external storage devices, blockchain services and all the other pieces that integrate your enterprise into the wider world.

The main aspects of each feature are as follows:

Storage (Drives, Files and Folders) – measures size, count of folders/subfolders and files, plus length of connection time

Web (URL) – reports on status, and round-trip delay

Database (SQL Server) – reports connection status, and duration of the connection

Network (IP) – Counts lost packets on Ping, Jitter and Latency

For all measures (other than status), average/minimum/maximum over 24 hours is represented graphically.

Future features in planned releases

New UI - major improvements to the UI, with additional features, are coming by Q1 2019. This will make the user experience much better, and upgrade the responsiveness of the whole application.

Expansion to MySQL on Linux - We are adding the whole environment of the MySQL platform, which will extend our reach for SMB companies.

Improved plan analysis - intelligent analysis of the plan being executed with highlight problems and lead to quicker solution to problems with Query such as locks, slow performance and deadlocks.

Query flag on Alert - shows icon detailing type of query.

Backup flag on Query - shows when a backup is running at the same time as the query, which may impact performance.