



Options for Proactively Managing Statistics in SQL Server



sqlbits

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I used to be a...
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Abstract



Have you ever wondered how you could manage statistics beyond having `AUTO_UPDATE_STATISTICS` for your databases enabled, using a maintenance plan, and/or using the default options in Ola Hallengren's script? If so, this session is for you. I'll talk through the method I use to figure out what statistics need frequent updates, which ones have skew, and which ones aren't as critical.

**It's important to understand that in this session,
I will not give you THE answer.
I will share steps to find a good solution,
because there is no ONE solution for all systems.**

How do we typically manage statistics?



**Let SQL Server
do it**



Just auto update
stats?

**Maintenance
Plan**



Sledgehammer
approach, but if
you're not a DBA,
and you're not 24x7,
it's fine

Scheduled Job



Best method, as long
as you're **not** using
sp_updatestats

Ola's Options



@UpdateStatistics

NULL is default


ALL, INDEX, COLUMNS

Default for IndexOptimize

```
EXECUTE [dbo].[IndexOptimize]  
@Databases = 'USER_DATABASES',  
@LogToTable = 'Y'
```

It's basically this

```
EXECUTE [dbo].[IndexOptimize]  
@Databases = 'USER_DATABASES',  
@FragmentationLevel1 = 5,  
@FragmentationLevel2 = 30,  
@UpdateStatistics = 'NULL'
```



Ola's Options



@UpdateStatistics

NULL is default
ALL, INDEX, COLUMNS



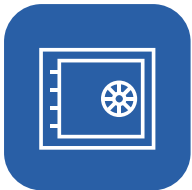
@OnlyModifiedStatistics

Updates if only 1 row has changed
Doesn't update indexed views



@StatisticsModificationLevel

Specify a percentage, or will use dynamic threshold



@StatisticsSample

Set the sample rate as a percentage (100 is FULLSCAN)

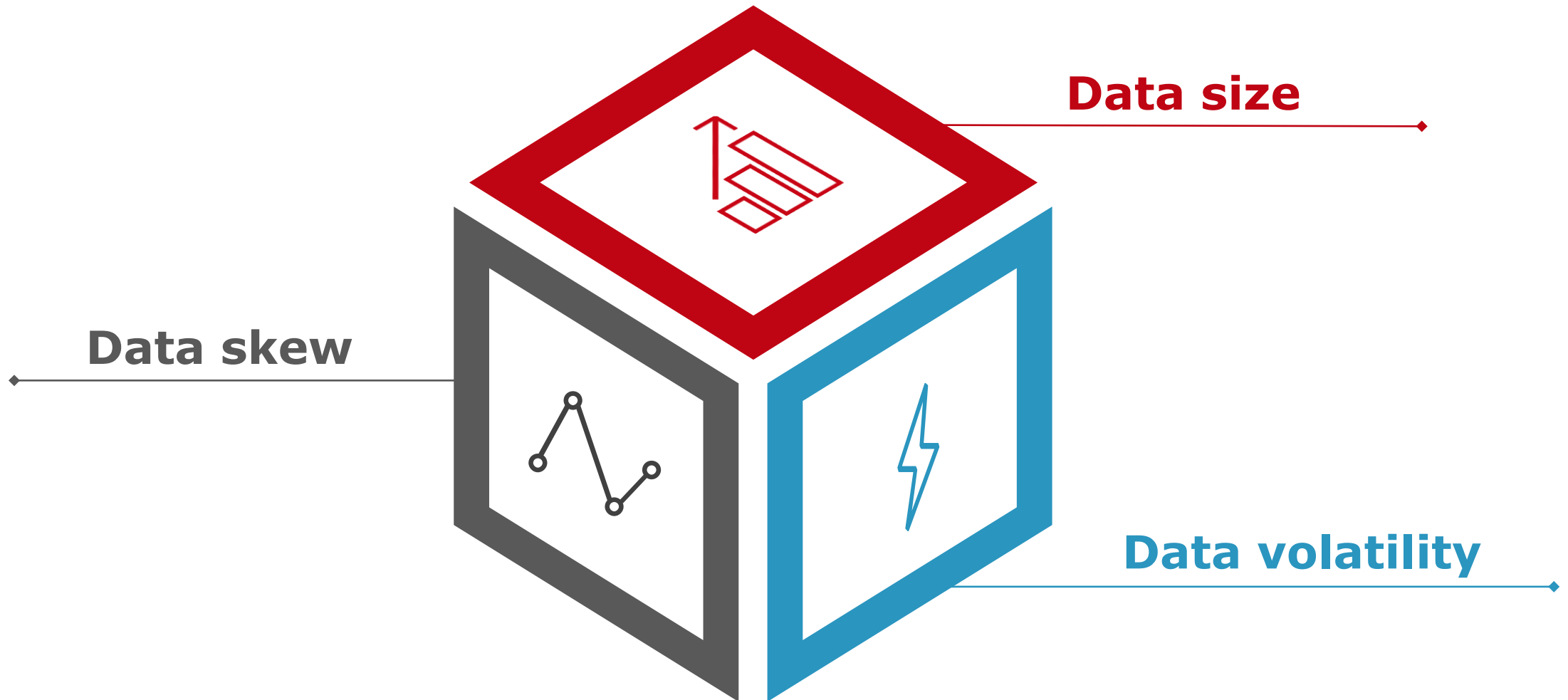
Older Way

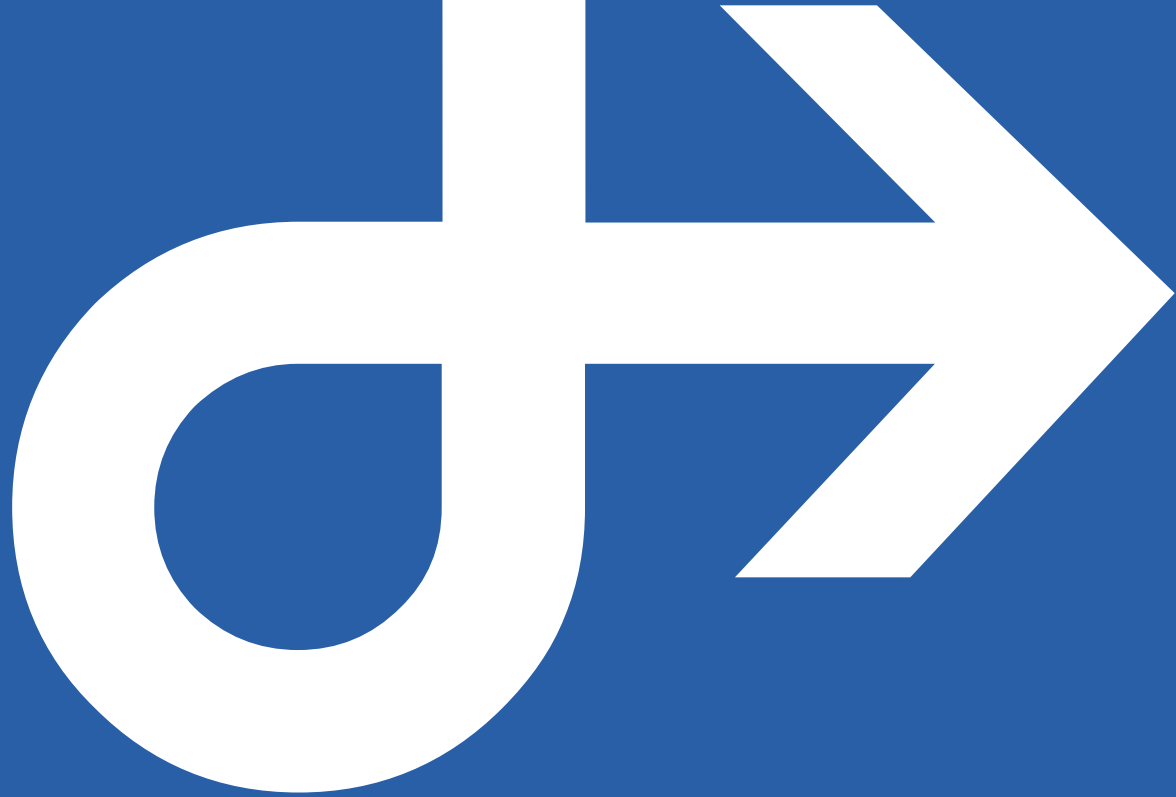
```
EXECUTE dbo.IndexOptimize
@Databases = 'USER_DATABASES',
@FragmentationLow = NULL,
@FragmentationMedium =
'INDEX_REORGANIZE,
INDEX_REBUILD_ONLINE,
INDEX_REBUILD_OFFLINE',
@FragmentationHigh =
'INDEX_REBUILD_ONLINE,
INDEX_REBUILD_OFFLINE',
@FragmentationLevel1 = 5,
@FragmentationLevel2 = 30,
@UpdateStatistics = 'ALL',
@OnlyModifiedStatistics = 'Y'
```

Newer Way

```
EXECUTE dbo.IndexOptimize
@Databases = 'USER_DATABASES',
@FragmentationLow = NULL,
@FragmentationMedium =
'INDEX_REORGANIZE,
INDEX_REBUILD_ONLINE,
INDEX_REBUILD_OFFLINE',
@FragmentationHigh =
'INDEX_REBUILD_ONLINE,
INDEX_REBUILD_OFFLINE',
@FragmentationLevel1 = 5,
@FragmentationLevel2 = 30,
@UpdateStatistics = 'ALL',
@StatisticsModificationLevel= '5'
```

Why one script doesn't work





“DEMO”

Customizing a Solution

Multiple Jobs for Updating Statistics



```
EXECUTE dbo.IndexOptimize
@Databases = 'USER DATABASES',
@FragmentationLow = NULL,
@FragmentationMedium = NULL,
@FragmentationHigh = NULL,
@UpdateStatistics = 'ALL',
@OnlyModifiedStatistics = 'Y',
@LogToTable = 'Y'
```

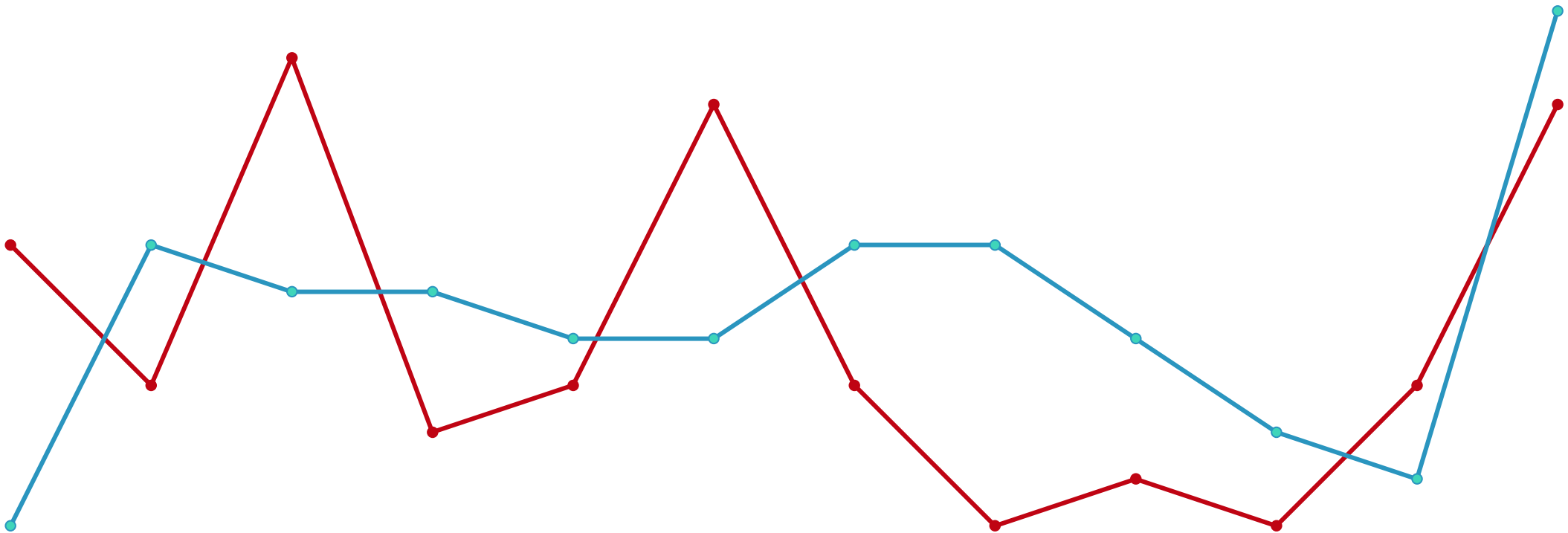
```
EXECUTE dbo.IndexOptimize
@Databases = 'USER DATABASES',
@FragmentationLow = NULL,
@FragmentationMedium = NULL,
@FragmentationHigh = NULL,
@UpdateStatistics = 'ALL',
@StatisticsModificationLevel = '5',
@LogToTable = 'Y'
```

What About Skew?



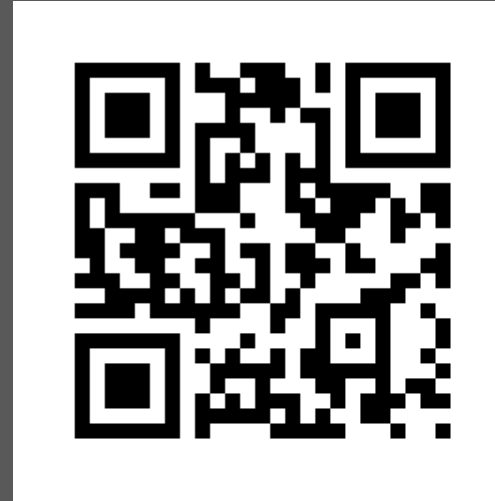
Kimberly Tripp's code to analyze columns for skew:

<https://www.sqlskills.com/blogs/kimberly/sqlskills-procs-analyze-data-skew-create-filtered-statistics/>



Thank you!

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Feedback

<https://sqlb.it/?6967>

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Contact



Say hi!