

## Index rebuild operation

The online index rebuild operation is an application that upgrades indexes in the background and converts them from a none compression state into a page level compression type. This operation updates indexes on the Events table in the databases on each of the monitored instance to become a page compressed type. This index upgrade shows considerable performance advantages and optimizes performance when viewing and managing event data.

The following 7 Indexes are included in the Events table of a monitored instance being audited:

- IX\_Events\_eventId
- IX\_Events\_eventCategory
- IX\_Events\_eventType
- IX\_Events\_databaseld
- IX\_Events\_appNameId
- IX\_Events\_hostId
- IX\_Events\_loginId

The operation is performed as an ONLINE operation (only for supported SQL Server versions) keeping the database table(s) available for users. The application checks the SQL Server version and then checks if the index compression type is set to page or none. based on the compression type, it performs the Index upgrade query which is set to be an ONLINE operation for any compression type to page compression type. The operation then runs and converts the 7 indexes of the event databases (for each instance added for auditing) to be page compressed. For environments with large repositories, the index rebuilds can take a significant amount of time. If you need to defer the rebuild, the SQL Compliance Manager update process will proceed without rebuilding the indexes and you can choose to do so at a later. For new instances, the page compressed type indexes is created by default.

 The index upgrade operation is skipped if the compression type is already set to page compression type.

## Running the Index rebuild operation manually

Several SQL Servers editions (such as the STANDARD edition), do not support the index rebuild operation to be performed in an ONLINE state. Therefore the operation results in a failure message displayed to the user instructing them to run the application manually without the ONLINE property.

Before updating the indexes, please ensure that the selected database has sufficient free space to accommodate these changes. For example, if the current size of your database is 1MB, the updated database may grow to 2MB. In this case, the update process would require 1MB of free space.

Users are able to run the utility manually with additional parameters in order to rebuild the indexes without the ONLINE option as follows:

```
<installdir>\SQLcomplianceIndexUpgrade.exe "server=serverName; database=SQLcompliance; integrated security=SSPI; Connect Timeout=30;" "ONLINE=OFF"
```

The second parameter "**ONLINE=OFF**" is an optional parameter and is meant to be used only when the index update operation cannot be performed with the ONLINE option.

 This operation should only be done during a downtime, since the index creation will acquire a lock on the Events table and the auditing will not work in that duration.

 When the utility is running manually the Index rebuild operation does not occur as an ONLINE operation.