

Microsoft Dynamics® C5

Factsheet

New database license model for Microsoft Dynamics C5 2012 HF001

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HEAD LINES

- Native and MS SQL Server clients now use the same calculation model.
- Native is no longer licensed by the physical size of the datafile. No need to export/import data to shrink the license size.
- New fields added to existing tables by Microsoft since Dynamics C5 2010 will not count against the database size.
- The size of each dataset is calculated separately.
- Converting between Native and SQL should not change the calculated dataset size.

THE NEW MODEL

- Based on the former SQL model.
- Still only the largest dataset gets licensed.
- Dataset size in KB is calculated as:
 $(\text{sum of } (\text{max}(\text{rowsize} - 19, 0) * \text{rowcount} / 1024) \text{ for each table}) * 1.1$
- Row size is the row size of the table as it was in Dynamics C5 2010 SP1HF6 + the size of user created fields.
- System created (FileId < 513) global tables add to every dataset. User created global tables only add to the size of the "DAT" dataset
- New or expanded fields added to existing tables by Microsoft since Dynamics C5 2010 will not add to the license size.
- New tables created by Microsoft will add to the license, but only by the size of the first version.
User created fields and tables will add to the license size
- Each calculation is valid for only 30 days instead of the 90 days in the old model.
- The kernel automatically updates the stored size and resets the date to a new 30 day period, if the new calculated size is below the license when the 30 days are up.
- If the new calculated size exceeds the license after 30 days, the user gets a warning and a 14 days grace period to either enter new codes or reduce the data consumption.
- When this happens the kernel automatically updates the size and resets the 30 days period.
- Otherwise the kernel forces a recalculation of the dataset size after 30 + 14 days.

CHANGES TO C5 FOR MS SQL SERVER

- Size calculations are done per dataset instead of for the whole database.
- When a recalculation is needed only the active dataset will be recalculated. This is much faster than having to calculate all datasets.
- The kernel now handles the test calculation instead of the algorithm being replicated in XAL.SQL-DbSizeCalc.

CHANGES TO C5 NATIVE

- Compressing or deleting rows reclaims license. No need to export/import data in order to reclaim license.
- The calculated size will never be larger than the size of the physical datafile. The native kernel picks the smaller of the two.

Note: This might lead to a larger calculated database size if converting a compressed native dataset to C5 SQL.

See the technical documentation below for a way to perform the calculation without this upper limit before converting from C5 Native to C5 SQL.

TECHNICAL

- 2 new SysInfo calls.
 - SysInfo(2120,") / #Db_Dictionary(CALCSIZE)
Returns the calculated size in MB of the active dataset
 - SysInfo(2120,'1')
Returns the calculated size in MB of the active dataset, but disregards the physical size of the datafile as an upper limit on C5 Native. This parameter has no effect on C5 SQL
 - SysInfo(2121,") / #Db_Dictionary(UPDSIZE)
Force recalculation of the size of the active dataset and reset the 30 days. Returns the calculated size in MB
- #Db_Dictionary(USEDSize) now returns the licensed size on both platforms
- #Db_File(<tablename>,LICENSESize) to get the licensed row size of a table
- #SQLDbSize / #SQLDbSizeUpdate and their SysInfo calls remains for backward compability on C5 SQL:
$$\#SQLDbSize / 1024 = \#Db_Dictionary(USEDSize)$$
$$\#SQLDbSizeUpdate / 1024 = \#Db_Dictionary(UPDSIZE)$$

CHANGES IN APPLICATION

- FRM.DatabaseStatus uses #Db_Dictionary(CALCSIZE) as "current size"
- The database size warning in FNC.DbOpen now uses #DB_Dictionary(CALCSIZE) to determine the current size. This now works the same for both C5 Native and C5 SQL.
- XAL.SQL-DbSize has been replaced by XAL.DbSize
- XAL.SQL-DbSizeUpdate has been replaced by XAL.DbSizeUpdate

KERNEL UPGRADES

- Using startup parameter -Q430 and below will revert to the old way of calculating rowwidth for C5 SQL. That is: the full row size will add to the license size.
- C5 Native datasets will be calculated based on the physical file size.
- The calculations will still be valid for only 30 days and will still be done per dataset.

PERFORMANCE OF DATASET SIZE CALCULATIONS

- Dataset size calculations on C5 Native datasets are nearly instantaneous due to row count lookups. Sample run times were below 50ms independent of dataset size.
- Sample run times for C5 SQL were:
 - 100 MB dataset => ~90ms
 - 440 MB dataset => ~250ms
 - 2200 MB dataset => ~1300ms
- These are executed by the kernel at startup only if the 30 days have been exceeded.

CHANGES IN DATABASE CALCULATION IN C5 2012 HOTFIX 1

- System created (FileId < 513) global tables add to every dataset. User created global tables only add to the size of "DAT". C5 2012 RTM added all global tables to all datasets
- SysInfo 2120 now accepts a '1' as parameter to have the native kernel disregard the physical size of the datafile as an upper limit when calculating the dataset size. This is useful for pre-calculating the dataset size before converting to C5 SQL

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