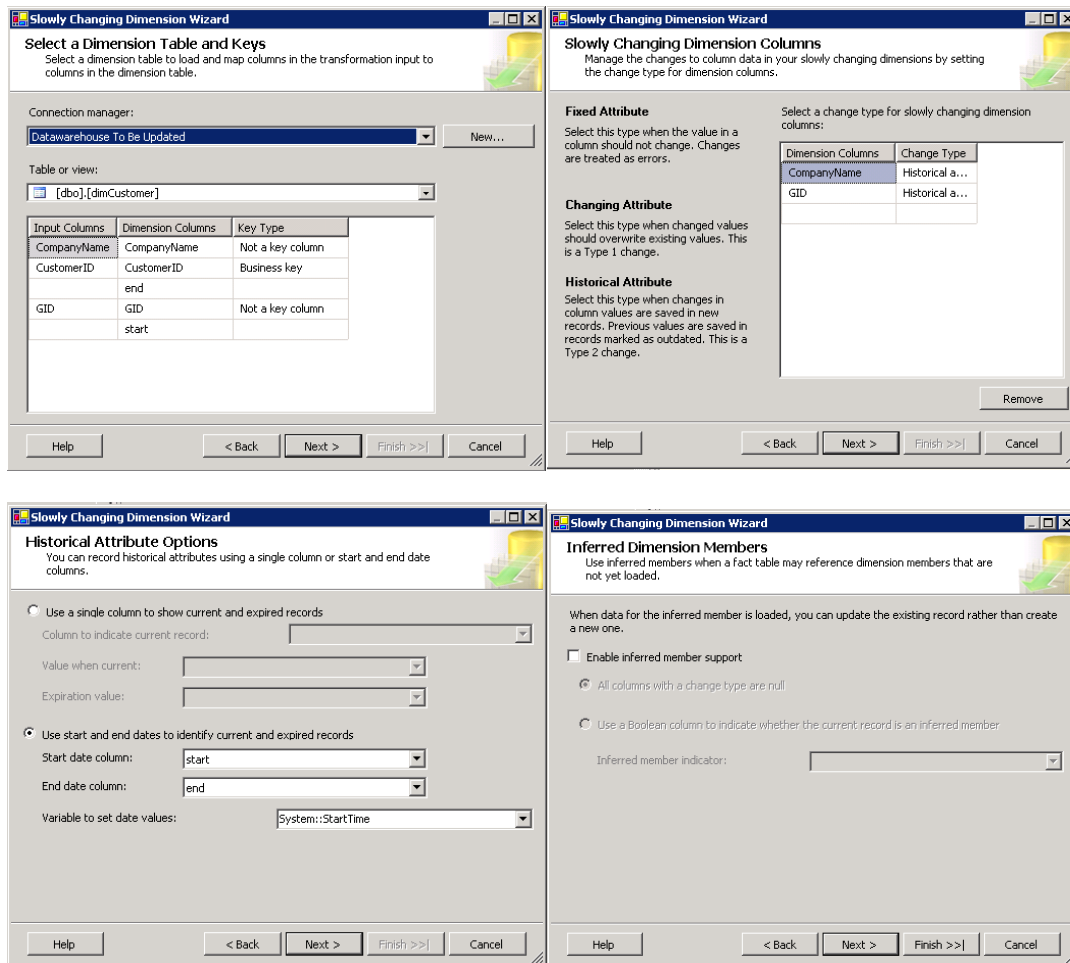# A note on the SCD component in SSIS

Download and deploy the SSIS package with the SCD from the course website. Study the slowly changing dimension operator in SSIS.

See http://www.bimonkey.com/2009/07/the-slowly-changing-dimension-transformation-part-1/ and http://www.bimonkey.com/2009/08/the-slowly-changing-dimension-transformation-part-2-type-2-dimensions/ for a clear introduction of the SCD component in SSIS.

The 4 screenshots above show the different screens of the wizard that is launched when you edit the SCD component in SSIS. In the first screen you select the data source and dimension table that need to be updated. Here you also indicate the business key (=the attribute(s) that form(s) the key in the OLTP data source). The SCD component already makes some choices for you. First of all, it assumes that the primary key of the table is the surrogate key. That's why it is not shown by the wizard. You cannot change that, unless you change the schema. The two date attributes are correctly not selected as data attributes by the tool. The other attributes get the qualification "Not a key column" to indicate that they are normal attributes, but not part of the key. In the second screen for these attributes you need to determine whether they will be treated as Type I (Changing attribute) or Type II (Historical attributes). If

the attribute cannot change, you pick "Fixed attribute". In the third screen you select the attributes that are used for versioning, and what time function should be used to set the creation/expiration time for the updates. Finally the last screen concerns "inferred member support"; this function supports the addition of dummy tuples in other tables in order to guarantee referential integrity. You can ignore this screen for the sake of this exercise. (Just indicate that no support is needed; by the order in which we handle our updates we will make sure referential integrity is always obeyed). The result of the wizard is the following dataflow:

Find out which tuples are updates (dimension already contains a tuple with the same business key), versus which ones are new.

For the already existing tuples, update the end time to the current time

UPDATE [dbo].[dimCustomer]
SET [end] = ?
WHERE [CustomerID] = ?
                AND [end] IS NULL

Union together the new tuples and the updated tuples

Set start time to the current time

Insert the new tuples in the database