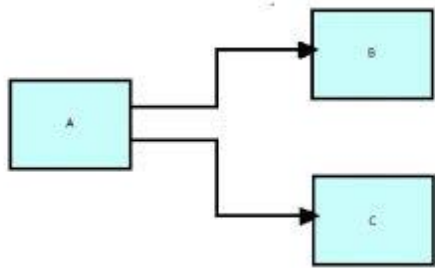# TWENTY YEARS OF PERFORMANCE TUNING
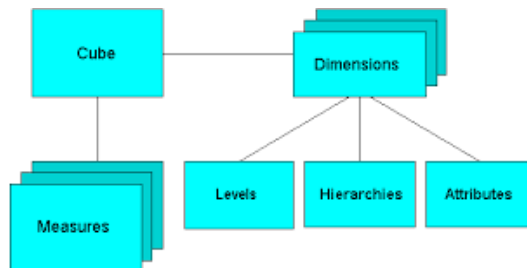## by Chris Lawson

TIP #6

Diagram Complicated Joins

I first learned about diagramming complicated sql from a white paper by Daniel Tow, about 20 years ago. His white paper was one of the most important papers I've read. Daniel now runs the "singingsql" site.

The idea is, make a diagram showing the join connections, and note the approximate size of tables. Also note, below each table, major filtering conditions. Of course, these are tables you want to join early. As shown below, the diagram will look a lot like an "E-R Diagram."

Once you create this simple diagram, you can decide the join order, based on using the most restrictive filtering conditions as early as possible. You can also see which indexes will be required. If you have one object in the diagram connected to *nothing*--you've just found a Cartesian product!

Chris Lawson is the author of *The Art & Science of Oracle Performance Tuning*, as well as *Snappy Interviews: 100 Questions to Ask Oracle DBAs*. When he's not solving performance problems, Chris is an avid hiker, runner, chorister, Amazon reviewer, and geocacher. Chris writes using the penname, "*Bassocantor*."

Twenty Years of Performance Tuning is a series of tips based on the author's experience solving performance problems over the last 20 years.