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Understanding Identifiers & Drill-Down Paths

MIT S Hypercube Identifiers

What is an Identifier?

Every MIT S flash screen is made up of a grid which contains horizontal rows and vertical columns. The vertical columns in a MIT S flash screen are often populated with what are called *accumulators*. These accumulators are simultaneously broken down two ways. Vertically, they are broken down by *date* (or *eon*) *values* and horizontally, they are broken down by *identifier values*.

In this article, we will be discussing the horizontal, identifier value breakdowns.

In the flash screen pictured to the right, the horizontal breakdown is based on a Region identifier. The main totals for the flash screen are displayed in the top row, and the individual region totals are displayed in the two rows below that. (Notice also that the totals at the region levels in each column add up to the top total for each column.)

SALES Region	SALES Year-to-Date	SALES Last Year
SALES:	1,328,042	4,055,939
Eastern Region	517,122	1,223,243
Western Region	810,921	2,832,696

To gain a deeper understanding of these numbers, we can *drill down* by another identifier within the hypercube to break them down further.

In the example below, we’ve drilled down from the Region identifier to the Warehouse identifier to see the warehouse totals within each region. You’ll see that each set of warehouse totals also add up to the corresponding regional total in that column.

SALES Region Warehouse	SALES Year-to-Date	SALES Last Year
SALES:	1,328,042	4,055,939
Eastern Region	517,122	1,223,243
BOISE BRANCH	112,833	260,312
SPOKANE BRANCH	404,288	962,931
Western Region	810,921	2,832,696
PORTLAND BRANCH	423,930	1,568,476
SEATTLE BRANCH	386,990	1,264,220

MITS Hypercube Drill-Down Paths

A hypercube's *drill-down paths* define the identifiers that are available for drilling down at any given level of the hypercube. The configuration of a hypercube's drill down paths is directly linked to not only the amount of disk space required for a hypercube, but also directly impacts the performance of the hypercube both during the build process and during the end-user experience.

When you are selecting the identifiers for a hypercube, it is important to be thinking about how these identifiers will fit with one another into a logical, cohesive set of drill-down paths. There are a number of things to keep in mind during this process:

- **A hypercube's structure is hierarchical.** The action of drilling down within a flash screen is based on the requirement for more detailed information. The graphic below depicts an example of a logical drill-down path: It starts with a Region identifier, which drills down to a Warehouse identifier, which drills down to a Sales Rep identifier, which drills down to a Product identifier. The column values for each level of this drill-down path is filtered based on the hierarchical levels above it.

SALES	SALES	SALES
Region	Year-to-Date	Last Year
Warehouse		
Sales Rep		
Product		
SALES:	1,328,042	4,055,939
Western Region	810,921	2,832,696
PORTLAND BRANCH	423,930	1,568,476
DREW LOGAN	65,326	181,999
#201 TOWEL NATURAL PROPRIETARY	8,194	14,994
#203 ROLL TOWEL BLEACHED PROPRIETARY	1,433	1,965
#315 6/CS ROLL TOWEL NATURAL PROPRIETARY	442	1,557
#316 6/CS ROLL TOWEL BLEACHED PROPRIETARY	0	217
#400 HOUSEHOLD ROLL TOWEL 2 PLY	170	849
#460 ROLL TOWEL UNIVERSAL NATURAL	2,176	6,650
#461 ROLL TOWEL UNIVERSAL NATURAL	1,059	2,501
#470 TOWEL SINGLEPOLD NATURAL	15	413

- **Avoid placing identifiers that return a very long list of values at the highest levels of your hypercube's drill-down paths.** Placing identifiers that return a long list of values at the highest levels of your hypercube's drill-down paths will have a negative impact on the performance of your hypercube.
- **Strive to use "grouping" identifiers to break down identifiers with many values into smaller lists.** If your company has 30,000 products that belong to 300 different product lines, configure the drill-down paths so that the Product identifier is only available below the Product Line identifier. This will break the list of 30,000 products down into 300 lists of 100 items each, which have a noticeably positive effect on the performance of your hypercube.