

# Introduction To Calculations

Here are the basic terms and concepts used when working with Calculation Groups.

## Calculations As Dimension Members

When defining calculations as Dimension Members, you specify which calculations to add to a Dimension. These calculations are similar to Calculated Measure expressions - they pre-set the MDX functions, Hierarchy and Level references as well as period function arguments.

## CurrentMember Support For Measures

When defining Calculated Dimension Members, you do not create Calculated Measure expressions that are tightly coupled to a single measure. Instead, their query will select Dimensions, a set of Measures, and one or more Calculated Dimension Member Attributes. The `[Measures].currentMember` capability allows the AtScale engine to execute the dimension member calculation over the set of Measures selected in the query.

## Calculated Dimension Attribute (Calculation Group)

Calculated Dimension Members are exposed to the BI tool as standard Dimensional Attribute, similar to AtScale's Secondary Attributes. Each member of the Calculated Dimensional Attribute is a calculation expression. You can add expressions to a Dimension when designing a cube.

## Calculated Dimension Members (Calculations)

The members of a Calculated Dimension Attribute are calculations with Name and Member key values similar to secondary attribute dimension members.

## MDX Syntax

Calculated Dimension Attributes are referenced in queries as using the same naming conventions established for dimension attributes: `[DimName].[CalculationGroupName].[CalculationGroupName].[CalculationName]`. For example:

- ▶ Name-based syntax for 1 Year Over Year: `[DateCustom].[Calculation Group].[Calculation Group].[YOY1]`
- ▶ Key-based syntax for 1 Year Over Year: `[DateCustom].[Calculation Group].[Calculation Group].&[YOY1]`

## Query Behavior

The execution of the Calculated Dimension Member behaves in the same way as if the calculation were a Calculated Measure for a given Dimension and Measure tuple. Therefore, standard multidimensional queries work, including those that cross by Secondary Attributes and LevelAliases. Additionally, other query features such as Unrelated

Dimension Handling and Custom Empty Members behave in the same way as the equivalent Calculated Measure query.