### ## Overview

There are basic principles around how assignments work that are critical to understanding our data model and more importantly how the data model can be applied to solve the most complex ordering scenarios.

* Assignments are used to define relationships
* Assignments are inclusive
* Assignments can be made at different levels depending on the resource
* Assignments may include configuration data
* Assignments cascade down higher levels to the individual user (except pricing)
* Assignments are many to many

### ## Assignments are used to define relationships

When you are saving an assignment you are creating a relationship between a single resource (address, spending account, etc.) and a buyer party(user, user group, or buyer company). There is one exception to this binary rule, which is product assignment. The product assignment is a three-way association between a product, a buyer party and a price schedule.

### ## Assignments are inclusive

When a buyer user is created they exist in a vacuum. The user will not have access to any resources until an assignment is made to them directly, or through a higher level party assignment.

### ## Assignments can be made at different levels

Assignments can be made to either the entire buyer company, a specific group of users (UserGroup) within that buyer company or for some resources a single buyer user.

##Assignments may contain configuration data

You may notice that some assignments contain configuration options. These options allow you to provide additional information about the assignment. For example, when assigning an address to a user, you can set IsShipping & IsBilling, these properties control whether the address can be used as a shipping and/or billing address on an order.

### ## Assignments cascade down higher levels to the individual user

When the platform is looking for what a given buyer user has access to, it is checking for assignments. If an assignment is made to a buyer then all the users that exist in that buyer company have access to the assigned object. Same principle applies to user groups and their constituent users. Regardless of where an assignment is saved, all of these objects are presented to the buyer user seamlessly and performantly.

The three-way product assignment described above is the exception, in that case the most specific pricing assignment will apply. For example, if you have a product assignment at the buyer level, but you would like a specific group of users to have different pricing, you could make an additional product assignment that included a UserGroupID and users assigned to that group would no longer see the buyer level pricing.

The scenario you’ll want to avoid is a user with multiple product assignments of the same specificity party level (e.g. a user belonging to two user groups, each with different product assignments). While the platform won’t prohibit you from making these potentially problematic assignments, the pricing returned for any user belonging to multiple pricing groups will always be indeterminate.

### ## Assignments are many to many

Resources can be assigned to many different buyer parties. Those buyer parties can be assigned to many other resources. For example, one user can be assigned to multiple address while one address can be assigned to multiple users.