

# Self Match Prevention

Self Match Prevention (SMP) is an optional feature available on The Nasdaq Stock Market (Nasdaq), Nasdaq Texas (NTX) and Nasdaq PSX (PSX) that prevents certain member orders from executing against each other. Nasdaq offers three versions of the functionality to allow participants to choose how orders are handled in the event of a self match scenario.

## How To Activate Self Match Prevention

There are two different matching levels available on inbound orders which control how SMP functionality is triggered:

1. MPID + Group ID
2. ORG ID + Group ID
3. Affiliate ID + Group ID
4. Match Any + Group ID

\* For OUCH and FLITE order entry protocols, settings can be applied at the individual Port/MPID level

\* For RASH order entry protocols, a member can only designate one setting per MPID

**MPID:** market participant identifier.

**ORG ID:** top level organizational identifier. Allows firms to enable SMP across multiple MPIDs with common ownership.

**Affiliate ID:** allows firms to enable SMP across direct membership MPIDs and MPIDs the firm is using through a sponsored access provider.

**Match Any:** allows firms to enable SMP if any of the existing activation levels matches (MPID, ORG ID, Affiliate ID).

**Group ID:** two-character identifier specified by firms to enable SMP at a more granular level within a given matching level. Group ID is mandatory and will be assigned two blank characters by default unless otherwise specified by the member.

**NOTE:** The SMP levels must match on both the resting and incoming orders for SMP to be triggered (MPID + Group ID, ORG ID + Group ID, Affiliate ID + Group ID).

## More Information

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Firms may opt-in to any version of the Self Match Prevention functionality by completing the Nasdaq Port Request Form, NTX Port Request Form and/ or PSX Port Request Form for each MPID, ORG ID, or Affiliate ID. Firms that have opted into the functionality will receive a value of “Q” in the Cancel Order Reason field per the INET FIX, RASH and OUCH protocol specifications.

## Self Match Prevention Examples

### Version 1: Decrement Both

If the orders have the same share size, both orders will cancel back to the customer.

If the orders are not equivalent in size, the smaller order will cancel back to the originating customer and the larger order will decrement by the size of the smaller order.

### Version 2: Cancel Oldest

Regardless of size, the full size of the order residing on the book will cancel back to the customer if the incoming order would execute against it. The incoming order will remain intact with no changes.

### Version 3: Cancel Newest

Regardless of size, the full size of the order coming into the book will cancel back to the customer. The resting order will remain intact with no changes.

### Version 4: Use Remover

This strategy will only invoke SMP as a liquidity adder and will defer to the incoming order’s strategy when activated. This strategy will never invoke SMP when it is applied to an incoming order.

**NOTE:** The SMP strategy on the incoming order will dictate the strategy that is activated.

### Adder/Remover Matching Matrix

Remover AIQ Level	Remover AIQ Strategy	Adder AIQ Level	Result (Assuming a Match Would Occur)
Firm	Decrement Both	Firm	If AIQ Group and MPID match, matched shares will be decremented from both orders, otherwise execute
Firm	Cancel Oldest	Firm	If AIQ Group and MPID match, the order with the earliest sequence number will be cancelled in full, otherwise execute
Firm	Cancel Newest	Firm	If AIQ Group and MPID match, the order with the latest sequence number will be cancelled in full, otherwise execute
Firm	Use Remover	*All Levels*	Order will execute
Firm	*All Strategies*	Organization	Order will execute
Firm	*All Strategies*	Affiliate	Order will execute
Firm	Decrement Both	Any	If AIQ Group and MPID match, matched shares will be decremented from both orders, otherwise execute
Firm	Cancel Oldest	Any	If AIQ Group and MPID match, the order with the earliest sequence number will be cancelled in full, otherwise execute
Firm	Cancel Newest	Any	If AIQ Group and MPID match, the order with the latest sequence number will be cancelled in full, otherwise execute
Organization	Decrement Both	Organization	If AIQ Group and Org ID match, matched shares will be decremented from both orders, otherwise execute
Organization	Cancel Oldest	Organization	If AIQ Group and Org ID match, the order with the earliest sequence number will be cancelled in full, otherwise execute

Remover AIQ Level	Remover AIQ Strategy	Adder AIQ Level	Result (Assuming a Match Would Occur)
Organization	Cancel Newest	Organization	If AIQ Group and Org ID match, the order with the latest sequence number will be cancelled in full, otherwise execute
Organization	Use Remover	*All Levels*	Order will execute
Organization	*All Strategies*	Firm	Order will execute
Organization	*All Strategies*	Affiliate	Order will execute
Organization	Decrement Both	Any	If AIQ Group and Org ID match, matched shares will be decremented from both orders, otherwise execute
Organization	Cancel Oldest	Any	If AIQ Group and Org ID match, the order with the earliest sequence number will be cancelled in full, otherwise execute
Organization	Cancel Newest	Any	If AIQ Group and Org ID match, the order with the latest sequence number will be cancelled in full, otherwise execute
Affiliate	Decrement Both	Affiliate	If AIQ Group and Affiliate ID match, matched shares will be decremented from both orders, otherwise execute
Affiliate	Cancel Oldest	Affiliate	If AIQ Group and Affiliate ID match, the order with the earliest sequence number will be cancelled in full, otherwise execute
Affiliate	Cancel Newest	Affiliate	If AIQ Group and Affiliate ID match, the order with the latest sequence number will be cancelled in full, otherwise execute
Affiliate	Use Remover	*All Levels*	Order will execute
Affiliate	*All Strategies*	Firm	Order will execute
Affiliate	*All Strategies*	Organization	Order will execute
Affiliate	Decrement Both	Any	If AIQ Group and Affiliate ID match, matched shares will be decremented from both orders, otherwise execute
Affiliate	Cancel Oldest	Any	If AIQ Group and Affiliate ID match, the order with the earliest sequence number will be cancelled in full, otherwise execute
Affiliate	Cancel Newest	Any	If AIQ Group and Affiliate ID match, the order with the latest sequence number will be cancelled in full, otherwise execute
Any	Decrement Both	Firm	If AIQ Group and MPID match, matched shares will be decremented from both orders, otherwise execute
Any	Cancel Oldest	Firm	If AIQ Group and MPID match, the order with the earliest sequence number will be cancelled in full, otherwise execute
Any	Cancel Newest	Firm	If AIQ Group and MPID match, the order with the latest sequence number will be cancelled in full, otherwise execute
Any	Use Remover	*All Levels*	Order will execute
Any	Decrement Both	Organization	If AIQ Group and Org ID match, matched shares will be decremented from both orders, otherwise execute
Any	Cancel Oldest	Organization	If AIQ Group and Org ID match, the order with the earliest sequence number will be cancelled in full, otherwise execute
Any	Cancel Newest	Organization	If AIQ Group and Org ID match, the order with the latest sequence number will be cancelled in full, otherwise execute
Any	Decrement Both	Affiliate	If AIQ Group and Affiliate ID match, matched shares will be decremented from both orders, otherwise execute
Any	Cancel Oldest	Affiliate	If AIQ Group and Affiliate ID match, the order with the earliest sequence number will be cancelled in full, otherwise execute
Any	Cancel Newest	Affiliate	If AIQ Group and Affiliate ID match, the order with the latest sequence number will be cancelled in full, otherwise execute

Remover AIQ Level	Remover AIQ Strategy	Adder AIQ Level	Result (Assuming a Match Would Occur)
Any	Decrement Both	Any	<p>If AIQ Group and one of the following matches:</p> <ul style="list-style-type: none"> <li>▪ MPID</li> <li>▪ Org ID</li> <li>▪ Affiliate ID</li> </ul> <p>Then matched shares will be decremented from both orders, otherwise execute</p>
Any	Cancel Oldest	Any	<p>If AIQ Group and one of the following matches:</p> <ul style="list-style-type: none"> <li>▪ MPID</li> <li>▪ Org ID</li> <li>▪ Affiliate ID match</li> </ul> <p>Then order with the earliest sequence number will be cancelled in full, otherwise execute</p>
Any	Cancel Newest	Any	<p>If AIQ Group and one of the following matches:</p> <ul style="list-style-type: none"> <li>▪ MPID</li> <li>▪ Org ID</li> <li>▪ Affiliate ID</li> </ul> <p>Then the order with the latest sequence number will be cancelled in full, otherwise execute</p>

## Example

The below examples demonstrate how SMP actions are applied when different incoming orders interact with a resting order:

## Decrement Both

### Example 1 – Orders Of Equivalent Size

If both orders are equivalent in size, all shares of both orders will be cancelled back to the customer.

BUY ORDER		SELL ORDERS IN PRICE/TIME PRIORITY		ACTION
MPID	ORDER	ORDER	MPID	
MPID A	200 @ \$10.01	200 @ \$10.01	MPID A	Both orders cancel back to customer

### Example 2 – Resting Order Is Larger Than The Incoming Order

If the resting order on the book is larger in size than the incoming order, then the incoming order will be cancelled back to the originating customer. The resting order will be decremented by the size of the smaller order and the remaining shares will post on the book.

BUY ORDER		SELL ORDERS IN PRICE/TIME PRIORITY		ACTION
MPID	ORDER	ORDER	MPID	
MPID A	200 @ \$10.01	500 @ \$10.01		All of the incoming order cancels back to the customer; 200 shares of the resting 500 share order cancel back to the customer
		REMAINING ORDER		
		300 @ \$10.01	MPID A	

### Example 3 – Incoming Order Is Larger Than The Resting Order

If the resting order on the book is smaller in size than the incoming order, then the resting order will be cancelled back to the originating customer. The incoming order will be decremented by the size of the smaller order and the remaining shares will post on the book.

BUY ORDER		SELL ORDERS IN PRICE/TIME PRIORITY		ACTION
MPID	ORDER	ORDER	MPID	
MPID A	500 @ \$10.01	200 @ \$10.01	MPID A	200 shares of the incoming 500 share order cancel back to the customer; all of the resting order cancels back to the customer
	REMAINING ORDER			
MPID A	300 @ \$10.01			

## Cancel Oldest

### Example 1

MPID A enters a 1,000 share buy order on the Nasdaq book to execute at \$10.01. The shares will execute in the following manner:

BUY ORDER		SELL ORDERS IN PRICE/TIME PRIORITY		ACTION
MPID	ORDER	ORDER	MPID/ORG	
MPID A	1000 @ \$10.01	200 @ \$10.01	MPID B	Executes
		200 @ \$10.01	MPID C	Executes
	REMAINING ORDER	INCOMING ORDER		Resting order cancels back with 600 unexecuted shares. Incoming order will remain intact.
MPID A	600 @ \$10.01	200 @ \$10.01	MPID A	

## Example 2 - Resting Order With Trade-Now

MPID A has a resting non-displayed 1,000 share buy order on the Nasdaq book to execute at \$10.01, with Reactive Trade-Now. MPID A sends in a 200 share Post-Only order to sell at \$10.01. The shares will execute in the following manner:

BUY ORDER		SELL ORDERS IN PRICE/TIME PRIORITY		ACTION
MPID	ORDER	ORDER	MPID	
MPID A	1,000 @ \$10.01	200 @ \$10.01	MPID A	Incoming order of 200 shares posts and displays at \$10.01.
INCOMING ORDER				Resting order of 1,000 shares is cancelled in full. The resting 200 share order will remain intact.
MPID A	Trade-Now message			

## Cancel Newest

MPID A has a resting 1,000 share buy order on the Nasdaq book to execute at \$10.01. MPID A sends in a 200 share order to sell at \$10.01. The shares will execute in the following manner:

BUY ORDER		SELL ORDERS IN PRICE/TIME PRIORITY		ACTION
MPID	ORDER	ORDER	MPID	
MPID A	1,000 @ \$10.01	200 @ \$10.01	MPID A	Incoming order of 200 shares is cancelled in full. The resting 1,000 share order remains intact on the Nasdaq book.

