

# Enhancing Product-Product box visibility in Dealer Portal

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# 1. Introduction

This proposal aims to address the visibility issues related to the product-product box (parent-child) relationships in the Dealer Portal. The focus is on ensuring accurate representation of these relationships for products managed in Dynamics NAV 2018.

## 2. Current Challenge

The Dealer Portal currently relies on the hyphen (-) in item numbers to identify and associate child items with their respective parent items. This method presents several unique challenges:

### 2.1. Hyphen-Based Association

The reliance on item number hyphens to determine parent-child relationships is insufficient and error-prone. This approach does not account for varied naming conventions.

### 2.2. Discontinued Child Items Handling

Discontinued child items with no stock still need to be displayed as part of the product-product box relationship if they are linked. However, if the discontinued items are not linked to any product-product box, they should not be displayed. The current system does not handle these scenarios correctly, leading to incomplete visibility.

### 2.3. Alphanumeric Naming Conventions

Child items with different alphanumeric naming conventions or spaces (with or without hyphens) are not accurately grouped and displayed using the current method.

### 2.4. Dual Role Items

Some child items can also be sold as individual products (parent-only items). The current system does not support this dual role effectively, resulting in inaccurate representation.

### 2.5. Manual Data Management

When child items are present without a hyphen or when child items are also parents, users have been creating such items manually in the Admin Portal to serve them in the Dealer Portal. This creates manual data management in the Admin Portal instead of syncing with NAV.

### 2.6. Quantity Per Handling

Each child item has a value in NAV under a field called "Qty per," which indicates how many boxes of the child item are needed to fulfill the parent item 100%. Currently, the Dealer Portal shows the child item dimensions but does not show them as multiplied values based on the "Qty per" value. This information needs to be incorporated to provide accurate data.

These challenges lead to visibility issues in the Dealer Portal, causing confusion and potentially impacting customer satisfaction.

### 3. Proposed Solution

1. Fetch an additional flag in Dynamics NAV Items API to explicitly indicate the parent items for each child item. This flag should be used to group and display the product-product box relationships accurately in the Admin and Dealer Portal.
2. Implement a flag in the Admin Portal to manually update and indicate whether an item is also a parent item. This flag will allow the item to be visible as an individual product and as a child under its respective parent item.
3. Fetch an additional value in Dynamics NAV Items API to get the "Qty per" field value for each child item.
4. For handling the "Qty per" field, ensure that the Dealer Portal retrieves and displays the quantity needed for each parent item, indicating how many boxes of the child item are required or will be picked.
5. Additionally, combine the two separate screens for managing products and product boxes in the Admin Portal into a single screen, like how it is managed in NAV.

### 4. Scenario Overview

#### 4.1. Standard Parent-Child Relationships

Problem: Reliance on item number hyphens is insufficient for cases where have boxes in number format.

Solution: Fetch additional flag based on Assembly BOM mapping from Dynamics NAV and use it to group and display the product-product box relationships accurately in the Admin and Dealer Portal.

Example Output: We will have all child items displayed in both Admin and Dealer Portal based on the Assembly BOM mapping, and not by the hyphen (-) character.

Parent Item	Child Item	Assembly BOM	In Stock
F86633	F86633-1	Yes	Yes
F86633	F86633-2	Yes	Yes
F86633	F86633-3	Yes	Yes
F86633	F86633-4	Yes	Yes
F86633	F86633-5	Yes	Yes

#### 4.2. Handling Discontinued Child Items

Problem: Discontinued child items with no stock should not have visibility if unlinked from the Assembly BOM of the parent item.

Solution: Fetch additional flag based on Assembly BOM mapping from Dynamics NAV and use it to group and display the product-product box relationships accurately in the Admin and Dealer Portal.

Example Output 1: We will have child items F9336EK-H.F and F9336EK-S displayed in both Admin and Dealer Portal based on the Assembly BOM mapping. Child items F9336EK-1 and F9336EK-2 will not exist for users/customers view.

Parent Item	Child Item	Assembly BOM	In Stock
F9336EK	F9336EK-H.F	Yes	Yes
F9336EK	F9336EK-S	Yes	Yes
F9336EK	F9336EK-1	No	No
F9336EK	F9336EK-2	No	No

Example Output 2: This example is not based on an actual item. In this case, even if a child item is out of stock, we will have F9336EK-H.F and F9336EK-S displayed in both Admin and Dealer Portal.

Parent Item	Child Item	Assembly BOM	In Stock
F9336EK	F9336EK-H.F	Yes	Yes
F9336EK	F9336EK-S	Yes	No

### 4.3. Alphanumeric Naming Conventions

Problem: Reliance on item number hyphens is insufficient for cases where have boxes in alphanumeric format.

Solution: Fetch additional flag based on Assembly BOM mapping from Dynamics NAV and use it to group and display the product-product box relationships accurately in the Admin and Dealer Portal.

Example Output: We will have all child items displayed in both Admin and Dealer Portal based on the Assembly BOM mapping, and not by the hyphen (-) character.

Parent Item	Child Item	Assembly BOM	In Stock
F9046F	F9046F-H.F	Yes	Yes
F9046F	F9046F-S	Yes	Yes

### 4.4. Items with Spaces

Problem: Reliance on item number hyphens is insufficient for cases where have boxes in alphanumeric format along with a space.

Solution: Fetch additional flag based on Assembly BOM mapping from Dynamics NAV and use it to group and display the product-product box relationships accurately in the Admin and Dealer Portal.

Example Output: We will have all child items displayed in both Admin and Dealer Portal based on the Assembly BOM mapping, and not by the hyphen (-) character, regardless of the extra space that you have on child item F9614Q -H.

Parent Item	Child Item	Assembly BOM	In Stock
F9614Q	F9614Q-F	Yes	Yes
F9614Q	F9614Q -H	Yes	Yes
F9614Q	F9614Q-S	Yes	Yes

## 4.5. Items with Spaces but No Hyphen

Problem: Child items with spaces and no hyphen not accurately displayed. These child items are created manually in the Admin Portal to show relevant boxes in the Dealer Portal

Solution: Fetch additional flag based on Assembly BOM mapping from Dynamics NAV and use it to group and display the product-product box relationships accurately in the Admin and Dealer Portal.

Example Output: We will have all child items displayed in both Admin and Dealer Portal based on the Assembly BOM mapping, and not by the hyphen (-) character, neither by the presence of this space, and eliminate every effort to handle these from Admin Portal manually.

Parent Item	Child Item	Assembly BOM	In Stock
F2584	F2584 BASE	Yes	Yes
F2584	F2584 TOP	Yes	Yes

## 4.6. Dual Role Items

Problem: Some child items are also sold as individual products.

Solution: Fetch additional flag based on Assembly BOM mapping from Dynamics NAV and use it to group and display the product-product box relationships accurately in the Admin and Dealer Portal. And implement a flag in Admin Portal to mark dual role items.

Example Output: We will have only these child items displayed in both Admin and Dealer Portal based on the Assembly BOM mapping, and not by the hyphen (-) character, neither by the presence of any space, or by mapping the item based on the item number naming being the same and eliminate every effort to handle these from Admin Portal manually.

Parent Item	Child Item	Assembly BOM	In Stock
168	F8894	Yes	Yes
168	F8895	Yes	Yes
168	F8896	Yes	Yes

## 4.7. Displaying “Qty per” against Child Items

Problem: Current Dealer Portal does not show the quantity needed for each child item, indicating how many boxes of the child item are required or will be picked. This does not provide enough transparency on the overall dimensions of each child items.

Solution: Fetch an additional value in Dynamics NAV Items API to get the "Qty per" field value for each child item and display in the Admin and Dealer Portal.

Parent Item	Child Item	Assembly BOM	Qty Per
F86633	F86633-1	Yes	1
F86633	F86633-2	Yes	2
F86633	F86633-3	Yes	2
F86633	F86633-4	Yes	1
F86633	F86633-5	Yes	1

Example Output: The current Product Boxes grid in the Dealer Portal can be modified to display the "Qty per" value at the end of the volume, using an 'x' followed by the value.

Box 1	30.50"(W) x 26.00"(D) x 32.00"(H)	94.60 (lbs) x 1
Box 2	13.50"(W) x 25.00"(D) x 30.50"(H)	30.00 (lbs) x 2
Box 3	24.50"(W) x 26.00"(D) x 30.50"(H)	73.00 (lbs) x 2
Box 4	35.00"(W) x 26.00"(D) x 55.50"(H)	77.40 (lbs) x 1
Box 5	30.00"(W) x 26.00"(D) x 32.00"(H)	94.60 (lbs) x 1

## 5. Impact of Proposed Changes

### 5.1. Fetch Additional Information in the NAV API

Change: Update the NAV API to fetch and provide information indicating Assembly BOM mapping, and the "Qty per" field value for each child item.

Impact: This will enable the Admin and Dealer Portal to display the product-product box relationships accurately, and the quantity needed for each child item, enhancing the accuracy of data presented to customers and improving their understanding of product requirements.

### 5.2. Restructure Product-Product Boxes in Admin Portal

Change: Consolidate the management of products and product boxes into a single screen in the Admin Portal along with the grouping of parent-child based on the Assembly BOM mapping and include additional value for "Qty per".

Impact: This will streamline the management process, reduce confusion, and improve efficiency. It will also align the Admin Portal's structure with how it is managed in NAV, making it more intuitive for users.

### 5.3. Map the New Structure to the Dealer Portal

Change: Ensure the new structure in the Admin Portal is accurately reflected in the Dealer Portal.

Impact: This will provide a consistent and accurate representation of product-product box relationships, improving the customer experience and reducing potential discrepancies between the Admin Portal and the Dealer Portal.

## 6. Benefits

**Accuracy:** Ensures that the Dealer Portal displays the correct parent-child item relationships and accurate child item dimensions.

**Efficiency:** Reduces the risk of errors and manual corrections.

**Customer Satisfaction:** Provides customers (dealers) with accurate information, enhancing their trust and experience.

**Streamlined Management:** A single screen for managing products and product boxes will simplify the process, reduce confusion, and improve efficiency.

## 7. ROI

**Improved Data Accuracy:** Reduces the time and cost associated with correcting visibility errors.

**Enhanced Customer Experience:** Leads to higher customer (dealer) satisfaction and potentially increased sales.

**Operational Efficiency:** Streamlines the process of managing and displaying product-product box relationships.

**Simplified Management Process:** Combining screens will reduce administrative overhead and improve workflow efficiency.