Executive Summary

Having accurate and up-to-date product data in an enterprise is a key to improving customer experience. Oracle Product Hub, along with a configurable publishing mechanism, helps in sharing clean product information as a single source of truth across enterprise applications. This process demands an effective framework, to standardize the product publishing process automatically from Product Hub, with configurable business criteria built in.

This paper deals with a common framework for the product data publishing process, with business validation for each target system, which will improve productivity significantly with a user interface for configuring business criteria for data dissemination. The key business benefit from this is a simple, fast and automated publishing mechanism from Product Hub and easy on-boarding of new product data consuming systems, without any additional development effort.

Overview

Over the past few decades, organizations have invested heavily in IT, which has helped them improve their supply chain efficiency. But this has resulted in master data spread being across multiple systems in the organization, which is in a constant state of flux. This is a major challenge and organizations today are countering it by employing master data solutions in the enterprise. Where this is not implemented, ignoring data management may impact the ability to deliver the key enterprise functions and processes. Inaccurate product data is a leading source for process inefficiencies in any business, which leads to:

- Fragmented and duplicate information, leading to supply chain inefficiency and process inefficiencies in warehouse management, sourcing, replenishment, supplier payment processing, etc.
- Continuously evolving information, resulting in lost market opportunity.
- Low data quality, leading to bad user experience in channels where the end customer is not able to touch and feel the product.
- Difficulty achieving harmonized information sharing among organizations and trading partners, with an inadequate data collaboration mechanism.

Product Hub needs to provide a common definition of the product across the organization. And to publish product information for multiple downstream applications, for performing different business processes around product data in downstream applications.
One of the key challenges for most of the organizations implementing the Product Hub solution is to automate the product dissemination process, satisfying business criteria and validation without manual intervention.

**Whitespace Analysis**

Our Oracle Solutions Practice provides services ranging from business consulting to application maintenance across Oracle’s entire solution suite.

- Product Hub is to distribute data as a single source of truth for consistent enterprise view.
- A typical business scenario demands data managed in Product Hub is published/

We propose a framework for publishing product data from Product Hub that will address the above identified gaps. Our automatic publishing mechanism greatly aids efficient data dissemination and provides easy on-boarding for new consumption/destination systems.

**Configurable Publishing Analysis**

![Diagram of Configurable Publishing Analysis]

Figure 1

We propose a framework for publishing product data from Product Hub that will address the above identified gaps. Our automatic publishing mechanism greatly aids efficient data dissemination and provides easy on-boarding for new consumption/destination systems.

**Product Data Publishing Mechanism**

To get the most out of Oracle Fusion Product Hub and to streamline the business process, we propose a mechanism to identify, validate and publish products from Product Hub.

Our product data publishing mechanism comprises three key components:

- **Setup framework:** For managing business criteria, conditional validations and destination systems, data requirements for each destination systems and payload requirements by business users.
- **Service to identify products:** Service to identify products that are eligible for publishing for each destination system and flag.
- **Service to publish:** Service to bundle the products for each destination system and publish in outbound publishing interface tables. And trigger middleware BPEL components to pick up and interface with destination systems.
Publishing Mechanisms

Why Auto Product Data Publishing?

In most organizations where the Product Hub solution is implemented, a key challenge is to perform validations specific to each target system and disseminate the product information to multiple downstream applications automatically. This ensures real-time data synchronization across the enterprise. Real-time data synchronization is required in most of the scenarios where information is continuously managed from multiple trading partners, data pools and product data management teams in the organization. This will ensure that the right data is synchronized with downstream applications to improve supply chain efficiencies and customer experience and to realize the true benefits of implementing the Product Master Data Management (PMDM) solution.

Data Validations

Product information needs vary for different consuming applications and may involve different sets of validations to be performed on the data. And these validations will differ for organizations and businesses. This is handled by the framework proposed in this solution, where users can define business rules and validations to be performed in Product Hub through the user interface designed for this purpose.
**Solution Design Principle and Process**

- Oracle Fusion Product Hub is a single source of truth for all product information across the enterprise.
- Business criteria/rules for publishing product data are configurable by business users.

**Easy on-boarding of new downstream systems for data integration/publishing from Product Hub with no additional development effort in Product Hub.**

**Solution Design Process**

1. **STEP 1**
   - Define metadata in Product Hub.
   - Set up products in Product Hub or induct products from upstream systems.

2. **STEP 2**
   - Define entities to be published to different target systems.
   - Define business criteria specific for each target system to identify products to distribute.
   - Manage data in framework through UI for data publishing.

3. **STEP 3**
   - Service to run as designed and fetch the rules/information captured in the framework for publishing.
   - Products identified for different target systems and flagged.
   - Products are bundled and published for each target systems with batch tag.

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**List of Data Validations**

<table>
<thead>
<tr>
<th>Validations</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Mandatory Validations</strong></td>
<td>Target-specific validations to ensure mandatory product data availability before dissemination.</td>
</tr>
<tr>
<td><strong>Conditional Validations</strong></td>
<td>Target-specific validations based on product life stage.</td>
</tr>
<tr>
<td><strong>Data Completeness Check</strong></td>
<td>Target-specific data completeness check before publishing product information to downstream systems.</td>
</tr>
<tr>
<td><strong>Business-Line-Specific Validations</strong></td>
<td>For different lines of business/product categories, business validations vary for each target system.</td>
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<tr>
<td><strong>Payload and Frequency</strong></td>
<td>Target-specific needs on payload information and frequency will be looked at by service before the product is flagged and published.</td>
</tr>
<tr>
<td><strong>Data Consuming Applications</strong></td>
<td>Newly built service will make use of consuming application information to decide on the batches and hence make onboarding easier.</td>
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Benefits: Automated Data Publishing Framework

Our product data publishing mechanism is an effective accelerator that facilitates any organization’s data interfacing needs and makes it simpler between Product Hub and downstream applications. It helps in:

- Reducing cost by eliminating extensions for target-specific needs.
- Eliminating developmental efforts for adding additional data entities for interfacing after go-live.
- Eliminating developmental efforts for onboarding new destination systems for Product Hub.
- Automating product data publishing from Product Hub based on predefined rules.
- Shortening implementation time.
- Enhancing business performance.
- Supporting multi-tenancy and internationalization needs.

Conclusion

Oracle Product Hub, together with our solution for sharing clean product information, ensures the completeness of a PMDM solution for any organization, without the need for continuous developmental efforts. This could prove to be a powerful platform for organizations to derive real business benefits out of the Product Hub solution.

About the Author

Nandakumar Balasubramanian is a Project Manager with Cognizant’s Oracle Solutions Practice and has over 10 years of experience with five years in product master data management. Nandakumar has extensively worked for clients in retail, high tech and publishing industry domains. He provides process, domain and technology consulting and has extensive experience in business process analysis, solution design and implementation in the area of product data management. He holds a bachelor’s degree in engineering with specialization in mechanical engineering. He can be reached at Nandakumar.Balasubramanian@cognizant.com.

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