

Warehouse and distribution supply chain capacity center construction

1 Background

1.1 Service Introduction

JD started to build its own logistics in 2007 and established JD Logistics Group in 2017. The service products mainly include warehouse distribution, express delivery, large items, cold chain, cross-border services, etc. It has formed an integrated supply chain solution for the differentiated needs of FMCG, clothing, home appliances, household appliances, 3C, automobile, fresh and other industries. JD Logistics adheres to the core development strategy of "experience-oriented, technology-driven and efficiency-winning", and joins hands with all sectors of society to build the global Intelligent Supply Chain Infrastructure Network (GSSC). JD Logistics conducts index decoupling and process decoupling for warehouse and small parts business to achieve clear visualization of top-down business standards and costs.

1.2 Warehouse and distribution supply chain operation dashboard construction

In order to be able to divide and decouple the cost of all small and medium parts warehousing undertaken by the warehouse distribution supply chain, the warehouse distribution management dashboard is built according to the following caliber

- Associated warehouse information: architecture code, region, park, system warehouse name, distribution center ID, warehouse ID
- Overall cost: total amount of cost, sequential cost, outgoing unit quantity, outgoing unit quantity sequential cost, average cost per unit, sequential cost per unit
- Cost module: housing cost, labor cost, consumables cost, depreciation cost, transfer cost, lease cost, other costs





2. Capacity center of warehouse and distribution supply chain was established

2.1 Background

Customer customization needs are diverse, personalized operations are increasing, standardized warehousing procedures need to be improved, and the headquarters is not transparent about operation management, leading to over-service of front-line warehousing; There is no standardized and customized service combination in the system, and no matching between product service and WMS system is realized, resulting in insufficient flexibility of the system and complex master configuration.

2.1.1 Status quo

Low degree of standardization of operation: artificial judgment of operation operators and excessive service of warehousing; Lack of guided operation, high work rate

The management in the library is difficult, with many business links and complicated process links, and the management cost of first-line operation process is high

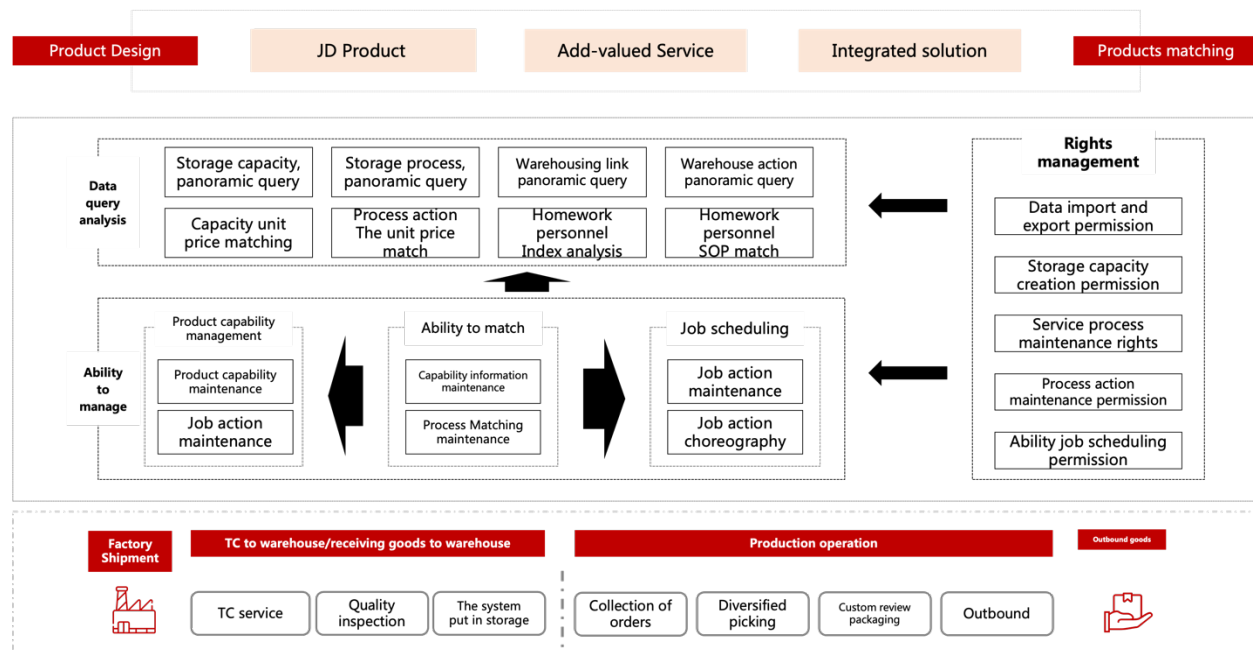
Low system docking efficiency: It is difficult for WMS to connect with ECLP/CLPS, and it takes a long time for system transformation to go online

2.1.2 Planning Direction

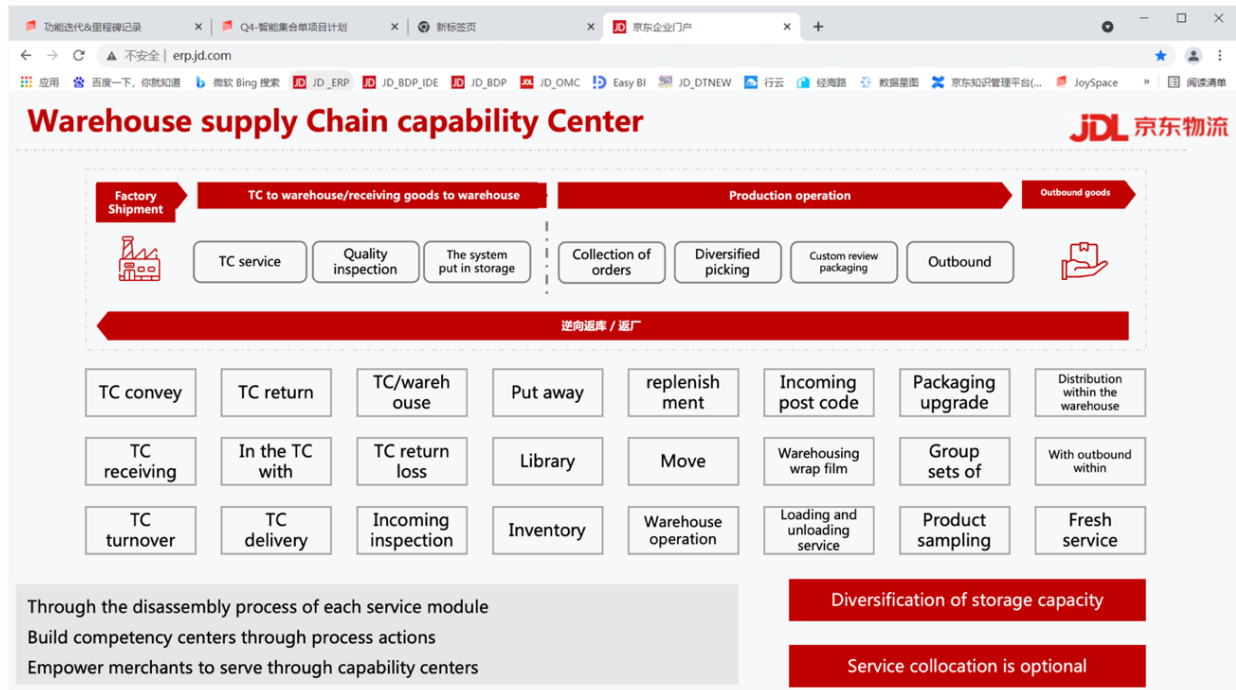
- Product: from the unified perspective of customers, sales and products, products guide sales to formulate sales plans, and products provide basic services to customers
- Ability: operation planning basic service warehousing process, operation process disassembling basic link action, warehousing ability enabling warehousing products
- Operation: the warehouse ability guides the warehouse operation, the warehouse operation is intuitive and transparent, and the system drives the standardized operation of the staff

2.2 Capacity center planning of warehouse and distribution supply chain

- From the perspective of operation planning, based on the existing operation process, service capabilities are disassembled and sorted according to the process and link of the smallest granularity, planned and combined into various business capabilities to quickly create personalized products.
- Customers can match service capabilities, processes and actions required, and warehousing can provide corresponding services according to product requirements.



3 Warehouse distribution capability center interaction prototype diagram



3.1 Optional Items Maintenance

- Function: You can define public optional items. The bill return capability itself involves multi-dimensional operation steps, and the operation steps in each dimension are differentiated. This dimension can be defined as an optional item
- For example, signature return has multiple attribute dimensions, such as signature return type (signature, id card copy) and signature return type (signature, seal). The operations corresponding to each dimension are differentiated. In this case, you can use the Capability Registration Management - Capability Optional Item Maintenance function to define multiple dimensions of signature return.

The screenshot displays the 'Optional Item Maintenance' interface within the 'Ability Center' (能力中心). The interface is divided into two main sections, both highlighted with red dashed boxes:

- Optional Basic information:** This section contains form fields for defining an optional item:
 - *选配项名称 (Optional Item Name): Text input field.
 - *选配项编码 (Optional Item Code): Text input field.
 - *选配项类型 (Optional Item Type): Dropdown menu with '文本' (Text) selected.
 - *运营相关 (Operation Related): Dropdown menu with '否' (No) selected.
 - *生效时间 (Effective Time): Date picker.
 - *失效时间 (Expiration Time): Date picker.
 - 备注 (Remarks): Text area with a character count of 0/250.
- Optional value and priority definition:** This section displays a table of optional values and their priorities:

序号	产品ID	可选值	优先级	操作
2	A001-02	身份证复印件	该产品范围值描述	编辑 删除

Below the table, there is a button '+ 添加选配值' (Add Optional Value) with a red circle containing the number 1 next to it.

At the bottom right of the interface, there are '取消' (Cancel) and '保存' (Save) buttons.

3.2 Capability Binding Optional items

- Function: Ability registration requires basic ability information editing and ability matching Settings. Capability options and optional configurations are public information and can be defined in advance
- Example: sign back in the center of the ability is defined as an ability to operate, can first through the "registration management - ability list - new" page to sign back the definition of basic abilities, such as the ability to name a customizable, ability validity code automatically generated, customizable, positioning check binding to return after the completion of the single type, type of sign after receiving STH such as optional items

logo

能力中心

用户名

工作台

能力列表

能力维护

能力信息

绑定选配项

能力名称

请输入

能力编码

请输入

维护范围

请输入

生效时间

请选择日期

失效时间

请选择日期

备注

请输入内容

0/250

可选选配项 1/20

选配项编码	选配项名称	操作
<input checked="" type="checkbox"/> 001	返单类型	详情
<input type="checkbox"/> 002	签收类型	详情
<input type="checkbox"/> 003	原单位置	详情
<input type="checkbox"/> 004	再投次数区间	详情
<input type="checkbox"/> 005	拒收处理	详情
<input type="checkbox"/> 006	返款周期	详情

优先级

1

007 签单样例要求 | 详情 || 2 | 008 | 改址类型 | 详情 |
| 3 | 009 | 验证类型 | 详情 |

取消

保存

3.3 Job action maintenance

- Action model is divided into two layers: basic information and action attributes. Action name, meaning, operation hint, example picture upload and other information or constraints are defined through this interface to complete the definition of a basic action.
- For example: for example, the operation of PDA can be regulated by defining different operation actions such as operation hints (such as: operation of signing and receiving the signed sheet at the bottom) and sample pictures. In the follow-up, the definition content of operation actions will be enriched with componentization.

JDL 京东物流 能力中心

搜索

常用 2/5

已收藏导航1

已收藏导航2

导航

首页

能力管理

产品能力管理

作业能力管理

运营环节查询

作业动作列表

能力动作编排

首页 作业动作维护 切换菜单 切换菜单 切换菜单 切换菜单 切换菜单 切换菜单 切换菜单 切换菜单

作业动作信息 Operation action basic information

* 作业动作名称 请输入

* 作业动作编码

* 所属运营环节 请选择

* 生效日期 请选择日期

* 失效日期 请选择日期

作业标准 请选择内容 0/250

Maintain the content of specific actions

绑定属性

动作属性 ☐ 操作提示 ☐ 示例图片 ☐ 数量约束

取消 保存

3.4 Ability scheduling

- Function: Through this interface, it can realize the action of borrowing capacity to the smallest dimension and sort the action to guide the operation.
- For example, the paper receipt return capability includes the following operations: 1. Operation prompt: Operation of the bottom line of the receipt prompt. 2. 3. Photo taking: The user can take a maximum of 3 photos, which can be flexibly defined in the ability center. And prioritize the actions.

logo

能力中心

用户名

工作台

能力动作编排

能力动作维护

工作台

能力注册管理

产品能力管理

作业能力管理

运营环节查询

作业动作列表

能力动作编排

能力动作维护

Ability to select

*能力名称

请输入

*选配项名称

请输入

*选配值名称

文本

*动作编码

请输入

*生效时间

请选择日期

*失效时间

请选择日期

备注

请输入内容

0/250

Select and sort the actions to complete the choreography

☐

动作编码

动作名称

操作

☒ ACTION01 确认已收取签单资... 详情

☐ ACTION02 提示派送包含签单... 详情

☐ ACTION03 现场让收件人完成... 详情

☐ ACTION04 推送签单所需资料... 详情

☐ ACTION05 提示需收取身份证... 详情

☒ ACTION06 拍照已收取身份证... 详情

☐ ACTION07 阅读电子签单说明 详情

移动

优先级

动作编码

动作名称

操作

1

ACTION08

拍照签收底联上传

详情

2

ACTION09

提示底联需收件人...

详情

3

ACTION010

由收件人对签单资...

详情

4

ACTION011

提示签单资料加盖...

详情

5

ACTION012

提示签收底联填写...

详情

取消

保存

3.5 Binding product Capabilities

- **Function:** Capability center displays all unbound capabilities in the product center. A product needs to be selected and bound to a product. You can maintain the relationship on the Product List-Add page. Select the product information automatically synchronized from the product center and select the registered capability to save.
- For example, if the product is divided into paper signature return capability and electronic signature return capability, select the two capabilities, and save them to bind the product and capability.

The screenshot displays the 'Product Capability Maintenance' (产品能力维护) interface. The left sidebar contains navigation options: '工作台' (Workbench), '能力注册管理' (Capability Registration Management), '产品能力管理' (Product Capability Management), and '能力作业管理' (Capability Operation Management). The main content area is titled '产品能力维护' and includes a 'Select a product' section with input fields for '产品名称' (Product Name) and '产品编码' (Product Code). Below this, there are two tables: '可选能力' (Selectable Capabilities) and '已选能力' (Selected Capabilities). The '可选能力' table lists various capabilities with checkboxes, and the '已选能力' table shows the selected capabilities with a '移动' (Move) button. Annotations in red boxes highlight the 'Select a product' section and the 'Select capabilities and set priority' section, which includes the '移动' button and the '已选能力' table.

产品能力维护

Select a product

产品名称 请输入

产品编码 请输入

可选能力 2/20

能力名称	操作
<input type="checkbox"/> A001 能力编码	
<input type="checkbox"/> A002 纸质空单运营能力	详情
<input type="checkbox"/> A003 签收验证运营能力	详情
<input type="checkbox"/> A004 号卡激活运营能力	详情
<input type="checkbox"/> A005 改址能力	详情
<input checked="" type="checkbox"/> A006 防撕码采集运营能力	详情
<input type="checkbox"/> A007 代收货款运营能力	详情
<input type="checkbox"/> A008 协商再投运营能力	详情

已选能力 0/5

优先级	能力编码	能力名称	操作
1	A0020	绿色环保包装运营...	详情
2	A0020	绿色环保包装运营...	详情
3	A0012	指定时间段派送能...	详情
4	A0011	普通保价运营能力	详情
5	A0015	年度统保运营能力	详情

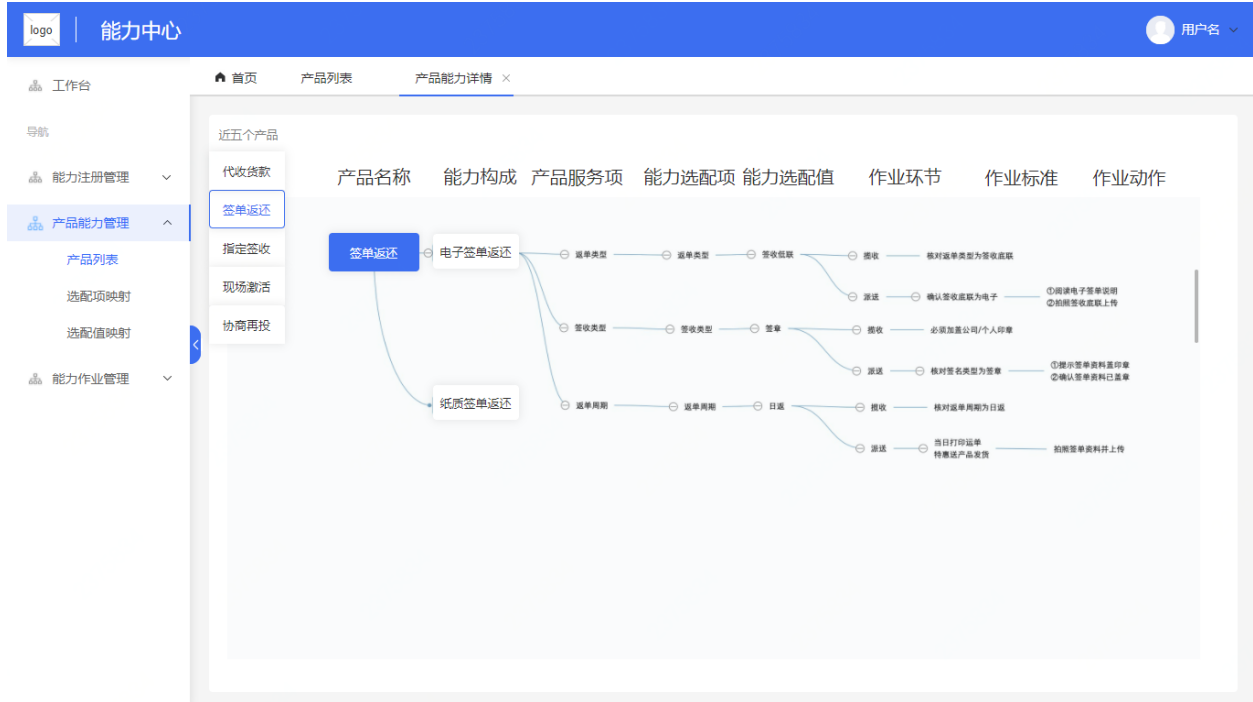
Select capabilities and set priority

移动

取消 保存

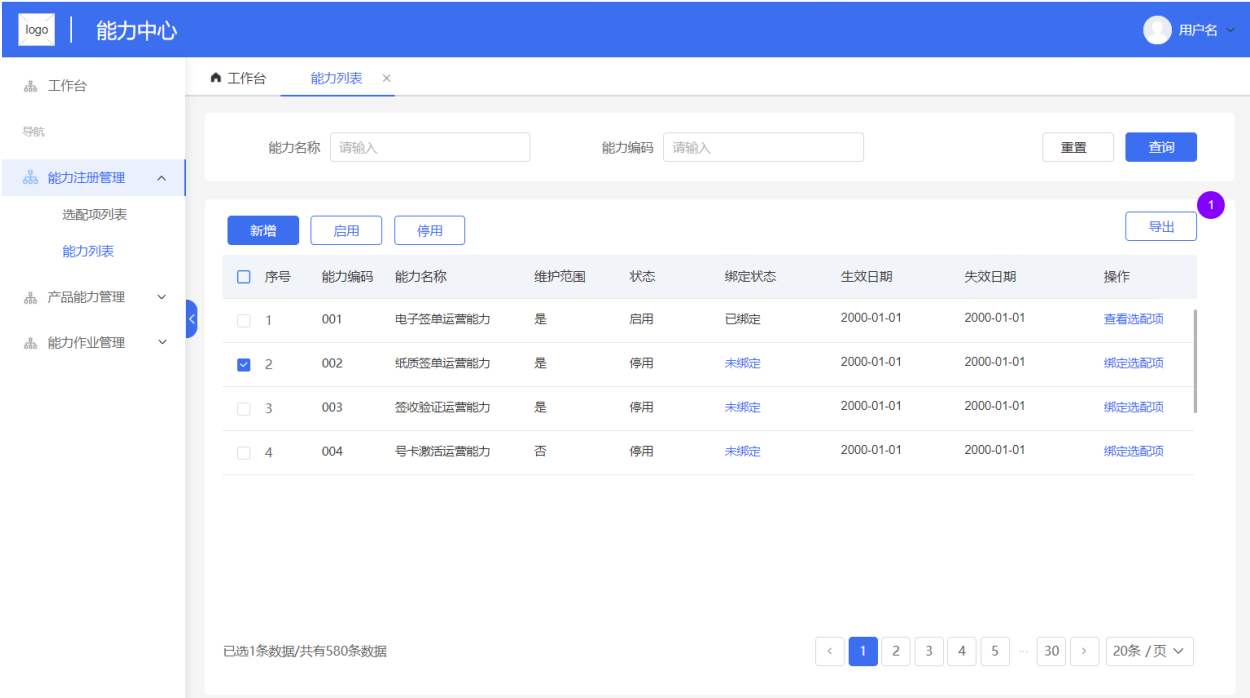
3.6 Product Perspective Capability panorama

- Functions: You can view and export the binding relationship between products, capabilities, and jobs on the Product Capability Management - Product Capability Query Panorama page.
- For example, there are electronic signature return capability and paper signature return capability. Under this capability, there are different options, such as order return type and signature receipt type, under which different operation links, operation standards and operation actions are defined. Including but not limited to product code, capability code, job code and other query conditions



3.7 Operational Perspective Capability Panorama

- Function: Export capabilities and job relationships from the perspective of operational capabilities (without product-related information). You can view or export them through the Capability Action List function. The visual interface is planned to improve readability.



4 Conclusion

After about 15 days of product design and 2 months of product development, we have completed the test of capability center-V1.0, which can realize the configuration and construction of storage capacity in each link and make the warehouse distribution cost structure more clear and transparent.