

Stock Requirement Document

[OKI: BIOS DW]

Software Division

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486 & 487, Udyog Vihar Phase-III

**Gurgaon- 122016, India**

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| 2.1 | 1-Apr-2016 | Added point- handling bad data |
| 2.2 | 14-Apr -2016 | Changed the logic of handling bad data |
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1. Introduction

This document describes the Stock Requirements. This document serves the how the data from Distributors will be loaded into the Stock Fact in DW. The prime intention of this analysis is to create the understanding about the business implementation of the Stock. Like Sales Files data we receive from Distributors, the same way we receive the Stock data from Distributors in files.

* 1. Objective

To develop the business understanding and requirements of Stock as well as changes impact in the project due to different tables and their relationships.

* 1. Scope

This document is intended to provide detail information about the distributors stock and how the stock date should be captured and stock should be shown to end users for analysis

1. November 2015: Stock (Distributors)
   1. Validates and Column Definitions

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Field Header** | **Description** | **Size** | **Type** | **Field Help** | **Level** | **Validation** |
| **1** | SORR | Record Reference | 10 | Value | Unique record number | Y | No |
| **2** | FRPT | Report Period Type | 1 | Code | "M" if Monthly report "W" if Weekly report | Y | Rejection |
| **3** | SODN | Distributor ID | 10 | Code | Your ID number given by OKI | Y | Rejection |
| **4** | SOMN | Material Number | 18 | Code | Oki Material Numbers Min 8 digit :00123456 | Y | Warning |
| **5** | SOMT | Material Text | 40 | Txt | Your material description | N | No |
| **6** | FMTY | Material Type | 3 | Code | "OKI" if SOMN=Oki Material "SPE" if SOMN=Your Special material\* | Y | No |
| **7** | STSQ | Stock Quantity | 17 | Value | Quantity of stock held (in number of pieces) | Y | Format |
| **8** | FTSV | Stock Value | 17 | Value | Total stock value of items in Euro (HT) 2pcs x 124,50€ => 249,00 | Y | Format |
| **9** | SCUR | Currency | 3 | Code | ISO 4217 Currency Codes | Y | Rejection |
| **10** | FSBK | Sales Open order | 17 | Value | Sales open order in quantity | Y | Format |
| **11** | FPBK | Purchase Open Order | 17 | Value | Purchase open order in quantity | Y | Format |
| **12** | SOSD | Date of Inventory | 8 | Code | Date of inventory in YYYYMMDD format | Y | Rejection |
| **13** | SYXX | Report Period | 6 | Code | Report in YYYYMM format if Monthly report Report in YYYYWW format if Weekly report | Y | No |
| **14** | SOSO | OKI Sales Organisation | 4 | Code |  | Y | No |

* 1. File Validation Rules
* **Format.** If the format is not correct, we will reject the file. All the following fields have to be values.
  + STSQ
  + FTSV
  + FSBK. Null Value will be allowed as well
  + FPBK. Null Value will be allowed as well
* **Rejection.**  If the content is incorrect, we will reject the file.
  + FRPT. It has to be M, W, or D
  + SODN. It has to be a known distributor
  + SOSD. It cannot be a date in the future
  1. How to assigned the period and the date

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| System Day | Freq. | Mon | Tue | Wed | Thu | Fri | Sat | Sun | Mon | Tue | Wed | Thu | Fri | Sat | Sun |
| System Date |  | 05-Jan | 06-Jan | 07-Jan | 08-Jan | 09-Jan | 10-Jan | 11-Jan | 12-Jan | 13-Jan | 14-Jan | 15-Jan | 16-Jan | 17-Jan | 18-Jan |
| Date of Inventory In file |  | 15-Jan | 15-Jan | 15-Jan | 15-Jan | 15-Jan | 15-Jan | 15-Jan | 16-Jan | 16-Jan | 16-Jan | 16-Jan | 16-Jan | 16-Jan | 16-Jan |
| Distributor A | Weekly | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 76 | 76 | 76 | 76 | 76 | 76 | 76 |
| Distributor B | Daily | 12 | 45 | 45 | 6 | 78 | 78 | 78 | 78 | 33 | 54 | 54 | 55 | 65 | 4 |

* + 1. Rule 1
* When field FRTP is D (daily), then the period is the date of sale.
  + We get the Daily Date of Inventory and we populate the same, if it’s already populated, we delete the old records for the same date and we insert the new records.
  + If we do not receive the file and date of Inventory on 10th Jan, 11th Jan and 12th Jan, then what ever is the stock on 9th Jan that will remain till we receive the next date of inventory?
  + New Requirement: When a Distributor do not send the Stock Unit for any product next day in the file but was there in previous day then also that product should be carried forward with Unit = 0
  + If we receive the past date of inventory, for example. we do not receive the file and date of Inventory on 10th Jan, 11th Jan and 12th Jan, then what ever is the stock on 9th Jan, that will remain till we receive the next date of inventory and we receive the date of inventory later as 11th Jan, then what ever is stock in 11th Jan date of inventory file, it will be for 12th Jan as well.
    1. Rule 2
* When the FRTP is W (weekly), If the date is on:
  + If we receive the date of inventory on 5th, 6th or 7th or 8th Jan, then Stock Value is of Last Week (29th Dec till 4th Jan)
  + If we Receive the date of inventory on 9th, 10th, 11th , 12th, 13th, 14th or 15th Jan, then Stock is for the current week (5th till 11th Jan)
  + New Requirement: When a Distributor do not send the Stock Unit for any product next day in the file but was there in previous day then also that product should be carried forward with Unit = 0
  + If there is no file and no date of inventory then the Fact table will get populated but with 0 Stock.
  + We also need date of inventory in the Fact table to identify when we got the Date of Inventory.
  + If we receive 1 date of inventory as 12th Jan and Stock is 46, then Stock is 46 for the current week (5th till 11th Jan). We receive another file on next day and date of Inventory is 13th Jan and Stock is 22, then 46 for that week (5th till 11th Jan) will be updated to 22.
  + The current week stock has to be populated with last week’s stock (real stock), if we receive a correct file for last week. We will start filling in the stock as 0, when a file hasn’t been received for the previous week. This will allows us to show the grand totals properly in the reports. ) when we miss one week.
  1. Handling Bad Data
  + There are two columns in Stock file which is having data that can be considered as bad data-
  + STSQ – This is an Integer field which contains the Stock Units value. We often get values with dot and comma (.,). There are some rules define about how to handle such data-

Comma and dot are considered to be used in the values as thousand separators i.e. there should be three digits after the comma or dot. In this case we will just remove the comma or dot. If there are two digits after comma or dot then we need to take value before the comma or dot.

Below are the various scenarios –

Scenarios:

1,000 ----> 1000

1,00 ----> 1

1.000 ----> 1000

1.00 ----> 1

1.565 ----> 1565

1,565 ----> 1565

1,0 -----> bad

1.0 -----> bad

1,56 -----> bad

1.56 -----> bad

1.0506 -----> bad

1,0506 -----> bad

In the above e.g. where bad is there, this needs to be validated at the File Validation Level and this needs to be implemented in the File Validation tool itself.

Note- Files received till date (14Apr 2016) we have never encountered any value having such value. We have received values with 2 or 3 digits after comma and dot.

* + FPBK- This is an integer field which contains the SalesOpenOrderUnits. If the value contains any space within the value then it needs to be removed. For e.g. - 56 will be inserted in the fact as -56.
  1. Model
* The information received will be linked to:
  + Distributor Dim: Using the SODN
  + Sales Org Dim: Using the SODN
  + Product Dim: Using the SOMT: For the unknown products proceed in the same way than in the sales out reports. (We will show the unknown products in the cube)
  + Date Dim: Using the SOSD
  + Currency Dim: Using the SCUR
  + Country Dim: Using Distributor Country from Distributor Dim
* We need to use the following fields for the different measurements.

|  |  |  |
| --- | --- | --- |
| **ID** | **Measure Name** | **Source Column** |
| 1 | Stock Units | STSQ |
| 2 | Distributor Stock Value Local Currency | FTSV |
| 3 | Purchase Open Orders Units | FSBK |
| 4 | Sales Open Orders Units | FPBK |

* 1. Dashboard & Report requirements
* At the first stage we need to be able to analyze
  + Stock units.
  + Stock Units value at SMP in Euro
  + On how to show the data we need to discuss on a workshop the possibilities. Questions:
  + What and how to show when the date dim is not filtered.
  + How to aggregate values by Product, Distributor, Sales org Dims…

1. June 2016: New Measures in Stock Cube

* Following are the new Columns in **Stock** in Cube

|  |  |  |
| --- | --- | --- |
| **ID** | **Measure Name** | **Source Column** |
| 1 | Stock Units | Distributor Stock Files |
| 2 | Purchase Units | Calculation |
| 3 | Sales Units | Distributor Sales Files |
| 4 | Local Stock Value at 60 - Historical |  |
| 5 | Local Purchase Value at 60 - Historical |  |
| 6 | Local Sales Value at 60 - Historical |  |
| 7 | Local Stock Value at 60 - Current |  |
| 8 | Local Purchase Value at 60 - Current |  |
| 9 | Local Sales Value at 60 - Current |  |
| 10 | EURO Stock Value at 60 - Historical |  |
| 11 | EURO Purchase Value at 60 - Historical |  |
| 12 | EURO Sales Value at 60 - Historical |  |
| 13 | EURO Stock Value at 60 - Current |  |
| 14 | EURO Purchase Value at 60 - Current |  |
| 15 | EURO Sales Value at 60 - Current |  |

* Calculate the Stock, Sales and Purchases in respect of Distributor, Date and Product.
* To calculate the purchases of our distributors, we need to look for those records where the customer group VAT number is the same than the distributor VAT number in the table.
* A very important thing to consider is that this has to be recalculated every time that a VTA number of a distributor is added or a customer is merged with the customer group record which includes the VAT number.
* Historic and Current Value for Stock, Sales and Purchase will be calculated based on the logic that each product has its own Product Price coming from FileMaker. Where ever the product of a match for a Material Number, Country combination, populate the Value as (Units \* Price). For the Historic Price take the price for the date of stock and for the current price take the later price of the product from the Product Price table from FileMaker.
* If the Product Price is not available in the Product Price database then take the Value whatever is sent by the Distributor.
  + 1. Cube
* The Stock Units or new Measures should be rolled up to Date Hierarchy to show the Last Child aggregation. Means the Stock on Sunday should be the stock of Week, Stock on 30 or 31 should be the stock of Month and so on.
* If there is no Stock for a Product on last day, then the last day of the Hierarchy should show 0 and not last non empty data.

1. 5 Jan 2017: Stock (OKI)

This document describes the Oki Stock Requirements. This document serves the how the data from Oki Stock will be loaded into the Stock Fact in DW. The prime intention of this analysis is to create the understanding about the business implementation of the Stock. We receive the Stock data from SAP in files.

* 1. Validates and Column Definitions

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| No | Field Header | Description | Size | Type | Field Help | Level | Validation |
| 1 | Plant | Plant | 10 | Value |  | Y | Yes |
| 2 | Material Number | Material Number | 50 | Code |  | Y | Yes |
| 3 | Storage Location | Storage Location | 50 | Txt |  | Y | No |
| 4 | Material type | Material type | 50 | Txt |  | Y | No |
| 5 | MRP controller | MRP controller | 50 | Txt |  | Y | No |
| 6 | Material Description | Material Description | 50 | Txt |  | Y | No |
| 7 | Product hierarchy | Product hierarchy | 50 | Code |  | Y | No |
| 8 | Manufacturer no | Manufacturer no | 50 | Txt |  | Y | No |
| 9 | EAN/UPC | EAN/UPC | 50 | Code |  | Y | No |
| 10 | Material group | Material group | 50 | Txt |  | Y | No |
| 11 | Creation date | Creation date | 50 | Date |  | Y | No |
| 12 | Unrestr.-use stock | Stock Units | 50 | Value | Quantity of stock | Y | Yes |
| 13 | In quality insp. | In quality insp. | 50 | Value |  | Y | No |
| 14 | Blocked | Blocked | 50 | Value |  | Y | No |
| 15 | Restricted-use stock | Restricted-use stock | 50 | Value |  | Y | No |
| 16 | Stock in transfer | Stock in transfer | 50 | Value |  | Y | No |
| 17 | Consignment stock at | Consignment stock at | 50 | Value |  | Y | No |
| 18 | Vendor | Vendor | 50 | Value |  | Y | No |
| 19 | Stock in transit | Stock in transit | 50 | Value |  | Y | No |
| 20 | ODC GiT | ODC GiT | 50 | Value |  | Y | No |
| 21 | CC GiT | CC GiT | 50 | Value |  | Y | No |
| 22 | Total stock | Total stock Units | 50 | Value |  | Y | No |
| 23 | Moving price | Moving price | 50 | Value |  | Y | No |
| 24 | Calc.Tot.MA | Calc.Tot.MA | 50 | Value |  | Y | No |
| 25 | Value/mov. av. price | Value/mov. av. price | 50 | Value |  | Y | No |
| 26 | Standard price | Standard price | 50 | Value |  | Y | No |
| 27 | Total Value | Total Value | 50 | Value | Total stock value | Y | No |
| 28 | Currency | Currency | 50 | Code |  | Y | No |
| 29 | Variance | Variance | 50 | Value |  | Y | No |
| 30 | G/L account no. | G/L account no. | 50 | Txt |  | Y | No |
| 31 | Profit center | Profit center | 50 | Txt |  | Y | No |
| 32 | Purchasing group | Purchasing group | 50 | Txt |  | Y | No |
| 33 | Reorder point | Reorder point | 50 | Value |  | Y | No |
| 34 | Safety stock | Safety stock | 50 | Value |  | Y | No |
| 35 | GR processing time | GR processing time | 50 | Value |  | Y | No |
| 36 | Plnd delivery time | Plnd delivery time | 50 | Value |  | Y | No |
| 37 | ABC indicator | ABC indicator | 50 |  |  | Y | No |
| 38 | Product Type | Product Type | 50 | Value |  | Y | No |
| 39 | Product Type Desc | Product Type Desc | 50 | Txt |  | Y | No |
| 40 | Product Group | Product Group | 50 | Value |  | Y | No |
| 41 | Product Group Desc | Product Group Desc | 50 | Txt |  | Y | No |
| 42 | Product Family | Product Family | 50 | Value |  | Y | No |
| 43 | Product Family Desc | Product Family Desc | 50 | Txt |  | Y | No |
| 44 | Product Sub-Type | Product Sub-Type | 50 | Value |  | Y | No |
| 45 | Product SubType Desc | Product SubType Desc | 50 | Txt |  | Y | No |
| 46 | Product Code | Product Code | 50 | Value |  | Y | No |
| 47 | Product Code Desc | Product Code Desc | 50 | Txt |  | Y | No |

* 1. File Validation Rules
* **Format.** If the format is not correct, we will reject the file. All the following fields have to be values.
  + Plant
  + Material Number
  + Unrestr.-use stock units
  + Storage Location. Null Value will be allowed as well
  + MRP controller. Null Value will be allowed as well
  1. Rule of loading the data from File
  + We get the file on daily basis and use File Creation Date column as Date of Inventory and we populate the same, if it’s already populated, we delete the old records for the same date and we insert the new records.
  + If we do not receive the file on 10th Jan, 11th Jan and 12th Jan, then what ever is the stock on 9th Jan that will remain till we receive the file.
  + When a Oki do not send the Stock Unit for any product next day in the file but was there in previous day then also that product should be carried forward with Unit = 0
* We need to use the following fields for the different measurements.

|  |  |  |
| --- | --- | --- |
| ID | Measure Name | Source Column |
| 1 | Stock Units | Unrestr.-use stock |
| 2 | Distributor Stock Value Local Currency |  |
| 3 | Distributor Stock Value EUR Currency |  |

* 1. Stock - Measures
* Following are the new Columns in **Stock** in Cube

|  |  |  |
| --- | --- | --- |
| ID | Measure Name | Source Column |
| 1 | Stock Units | Oki Stock Files |
| 2 | Local Stock Value at 60 - Historical |  |
| 3 | Local Stock Value at 60 - Current |  |
| 4 | EUR Stock Value at 60 - Historical |  |
| 5 | EUR Stock Value at 60 - Current |  |

* Calculate the Stock in respect of Distributor, Date and Product.
  1. Cube
* The Stock Units or new Measures should be rolled up to Date Hierarchy to show the Last Child aggregation. Means the Stock on Sunday should be the stock of Week, Stock on 30 or 31 should be the stock of Month and so on.
* If there is no Stock for a Product on last day, then the last day of the Hierarchy should show 0 and not last non empty data.
  1. Dashboard & Report
* At the first stage we need to be able to analyze
  + Stock units.
  + Stock Units value in Euro
  + Stock Units value in Local

1. Open Questions on Stock

* Stock Date missing from OkiStock File.
* For some of the records in Oki Stock files has Stock Value but Units is zero. So do we have some other columns in file which we need to consider for Units.