

2.0 Appendix A – Project Aspire Conversion/Interface Functional Design

ADML ID	85
ADML Description	MFMP - Purchase Order Data
ADML Tech #	83

2.1 Description Functionality

Current Design

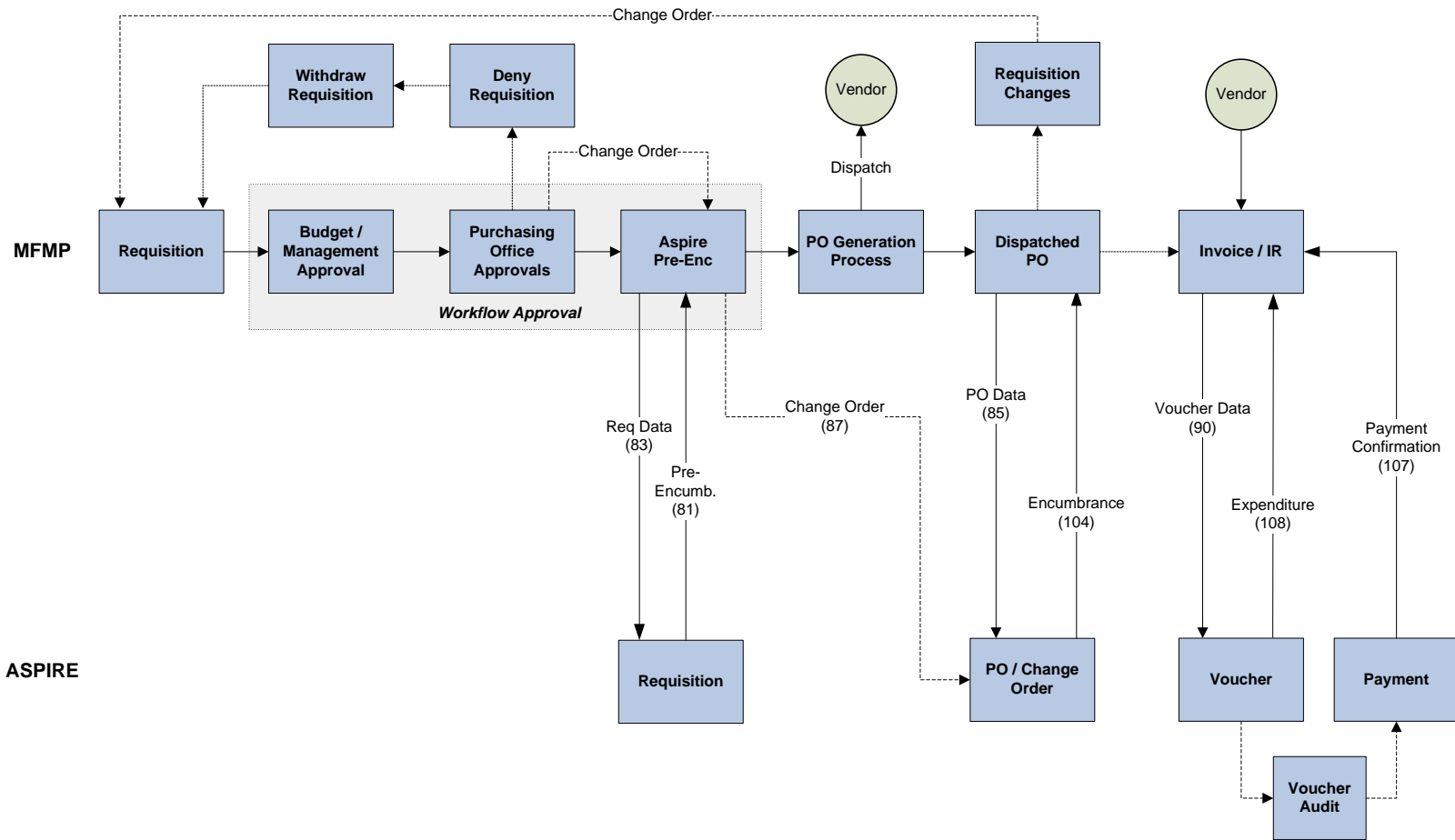
Presently, MFMP is integrated with FLAIR to record encumbrances and process payments. Once a requisition is created in MFMP and routed through the approval chain, the requisition is routed to FLAIR for final approval and recording of the encumbrance. Once the encumbrance is created in FLAIR, an interface passes the information back to MFMP and the PO Generator process converts the requisition to a purchase order. The PO is then ready for further processing in MFMP. The new interface between MFMP and Aspire will also provide a way to create and record the encumbrance.

Aspire Design

In Aspire, a PO is required to create an encumbrance that can be released through vouchering. Therefore to integrate MFMP and Aspire, a real-time interface (inbound) needs to be developed to bring the MFMP purchase order information into Aspire. It should bring the purchase order information into Aspire's purchasing tables through a component interface in order to utilize Aspire's delivered system validations, including chartfield combination edits. The interface will run once the PO is generated (requisition is converted into the purchase order) and dispatched in MFMP. Upon successful save, Aspire will automatically kick off the budget process.

The below diagram shows how this interface fits into the overall MFMP Design:

MFMP Overall Design Diagram



The budget check process will typically produce one of the following two results: Valid or Error. In both cases, Aspire will send a message back (via ADML 104) to MFMP with the PO status and any associated messages. The message details are sent back to MFMP, and are also available online in Aspire within the Commitment Control module. See ADML 104 for more details on the outbound interface.

It is important to note that MFMP automatically generates and dispatches the PO once they receive the Requisition success message from Aspire. Therefore, the PO will be submitted to Aspire almost immediately after the Requisition. No changes can be made on the PO in MFMP, so the initial submit of the PO will be identical to the Requisition. Since Aspire will have already performed save validations and budget checking on the Requisition, it can be assumed that the PO will always be saved and budget checked successfully in Aspire. However, technical issues can cause exceptions to this rule.

If there are technical issues which prevent the PO from being submitted immediately after the Requisition and during this unusual lag time, a required data element (category value, chartfield value, combo edit, available budget, security setup) is changed or inactivated in Aspire, it is possible that the PO will fail. In case of save errors, the PO data will not be saved in Aspire. In the case of budget errors, the PO data will be saved with a Budget Status of "Error". Either way, the appropriate system-generated message will be sent back to MFMP (via ADML 104).

Since the Vendor will have already received the PO from MFMP, action should be taken immediately to assess the problem. In MFMP, the PO will automatically be cancelled to eliminate any invalid PO's from remaining open with the Vendor. The MFMP user will then need to assess how to fix the problem depending on what type of error was generated in Aspire.

Message and Component Interface

For the inbound interface, MFMP will pass the PO Data in XML Format. In Aspire, we will develop a program to capture the XML message and load it into the purchasing tables. The following are the core tables that need to be populated:

- PO_HDR captures the header information like Purchase Order Status, Hold Status, Purchase Order Date, Origin, Buyer info, Entered Date, Approved Date, etc.
- PO_LINE captures Line information like Line Number, Item ID, Description, UoM, Price, Price Tolerances, etc.
- PO_LINE_SHIP captures the Schedule information like Ship To info, Schedule Due Dates, etc.
- PO_LINE_DISTRIB captures Distribution information like Chartfield info, Asset information if any etc.

In addition, other optional tables will be populated with the default data while saving the requisition in Aspire using a Component Interface (CI). Several fields should be configured with appropriate default values in order for the PO to save successfully. See the *Configuration and Default Values* section below for more details. For all field-level details, see the attached spreadsheet.

Configuration and Default Values

In Aspire, all MFMP PO's will have an Origin = "MFM" and a PO ID with a prefix of "P". The MFMP PO ID consists of an alpha-prefix and a unique number. Aspire will use that unique number as the last digits in the PO ID. Then, to fill the 10 digit field, zeroes will be put in between the "P" and the numeric portion. For example, if the MFMP PO ID equals "DO9326", the Aspire PO ID will be "P000009326".

In MFMP, the business unit is labeled as “PUI” (Purchasing Unit Indicator). In Aspire this value is called the Purchasing Business Unit (PO BU). When the PO is sent to Aspire, the PUI value will need to be mapped to the PO BU value by adding a “0” at the end of the PUI. If the Aspire Business Unit setup is changed, this method of mapping may need to be reviewed.

In Aspire, the Buyer ID is a required field on a PO; however, this has no impact on the encumbrance. Therefore to simplify things, a generic Buyer ID will be defaulted into all PO’s interfaced from MFMP to Aspire. In order to create the generic Buyer ID in Aspire, we will first need to create a generic User ID. Both of these values should be equal to “MFMPUSER”.

A generic Ship To Location should also be setup for MFMP PO’s as it is required in Aspire, but not pertinent to the encumbrance. In order to create a Ship To Loc, a Location must be setup first. Both of these values should be equal to “MFMPLOC” and should be found under all the BU Set IDs.

MFMP does not allow more than one Schedule Line per Line, therefore Aspire will always default the Schedule Line Number to ‘1’. MFMP does allow multiple Distributions per Schedule Line, and therefore, Aspire will accept the Distribution Line Number sent in the message.

In order to eliminate rounding discrepancies between the two systems, MFMP will always send two decimal places in the amount fields. In Aspire, we will take the amount and calculate the quantities for each distribution line. The Distribution Lines will be set to “Distribute By Quantity,” therefore the system will calculate the distribution amounts and percentages automatically upon save.

The Accounting Date will always default to the Current Date in Aspire to ensure that the Accounting Period will be open. The Budget Date, however, will be taken from the associated Requisition distribution lines. No budget date edits will be required here since the values will be identical to those on the Requisition.

MFMP does not record Asset information; Therefore, Aspire will use the Category to default any related Asset information onto the PO Distribution Line. This information will be sent to the Asset Management module after the Voucher is posted, at which point, the Asset group can make any necessary changes.

Security Requirements

Several validations will be performed against the Operator ID when a PO is submitted. In Aspire, each user will be give access to a specific set of GL, AP, and PO BU’s. Aspire users must also be given the appropriate authorization to use a particular Org Code, to override a management/project budget. This setup will be done through Security and R2R functionality within Aspire and then interfaced to MFMP via ADML 21.

MFMP will use this data to limit their users to the defined GL BU, Org, and Override Authority. MFMP will also send the Aspire User ID as a part of the PO message, so that the appropriate security validations can be performed in Aspire as well. Error messages will be sent back to MFMP if the user does not have the authority to use a certain value or perform budget override.

A System User needs to be setup in Aspire in order to accept the XML Messages and process through Integration Broker. The User ID should be given the appropriate Role(s)/Permission List(s) as determined by the Security Team.

2.2 Scheduling

Real-Time

2.3 Run Control Parameters

Not Applicable.

2.4 Unit Test Considerations

- Validate that an MFMP PO with all the appropriate required data and sufficient budget is saved successfully in Aspire after the MFMP PO Generation process, and that budget checking is kicked off automatically and encumbrance is recorded successfully.
- Validate that PO's from MFMP with invalid or missing values (such as BU and chartfield combinations) will create error messages that are passed back to MFMP and that the PO will not be saved in Aspire.
- Validate that PO's from MFMP with insufficient budgets (Approp, Release, Management, Project, etc.) will create appropriate error messages that are passed back to MFMP. The PO should still be saved in Aspire with a status of "Error", displaying the detailed messages in Commitment Control module.
- Validate that all the Operator ID security is being enforced. MFMP users should receive an error message if they submit PO's to Aspire with BU or Org values that they do not have access to in Aspire. In addition, if they do not have the ability to override the budget, they should receive the appropriate error message when attempting to do so.

- Validate that PO's cannot be submitted against Closed or Cancelled Requisitions.

2.5 Miscellaneous

- The attached Spreadsheet contains the main Aspire Purchase Order table structures; however detailed messaging requirements should be determined during development.
- MFMP Transactions should not be editable in Aspire; however these transactions should be accessible in Inquiry pages.
- The following components need to be modified to limit the search results to only the transactions created online in Aspire.
 - Purchasing > Purchase Orders > .
 - Page : PO_EXPRESS, Component : PURCHASE_ORDER_EXP, Menu : MANAGE_PURCHASE_ORDERS
 - Purchasing > Purchase Orders > .
 - Page : PO_LINE, Component : PURCHASE_ORDER, Menu : MANAGE_PURCHASE_ORDERS
 - Purchasing > Purchase Orders > Maintain Distributions
 - Page : PO_CF_DTLS, Component : MAINTAIN_PO_CF, Menu : MANAGE_PURCHASE_ORDERS
 - Purchasing > Purchase Orders > Reconcile PO's > Reconciliation Workbench
 - Page : PO_RC_WB_SRCH, Component : PO_RC_WB, Menu : MANAGE_PURCHASE_ORDERS
 - These changes should not affect the component interface to add / update requisitions.
- The interface should also be designed to put the Purchase Order on hold once the PO is successfully saved and budget checked in Aspire. This will prevent online users from creating Receipts and Vouchers against this PO. If changes or updates to the Purchase Order are required from the interface the PO should first be removed from hold and the changes / updates made. The PO should then be put back on hold.
- This interface should not accept PO's against Closed or Cancelled Requisitions.

2.6 Assumptions

- A Real-time interface will be developed to populate the Aspire Purchase order tables using Application Messaging and a Component Interface.
- All Requisition Workflow Approval will happen in MFMP.
- Chartfield Combination Edits will occur in Aspire, not MFMP.
- The MFMP PUI to Aspire PO BU mapping logic will need to be reviewed if any changes to Aspire's BU setup are made.
- Aspire will be the owner of the Chart of Accounts, but this data will be interfaced to MFMP on a nightly basis.
- Category/Commodity Codes will be kept in sync manually.
- PO errors will be very rare due to the timing, but any that do occur should be handled in a timely manner since they will have already been dispatched to the Vendor.

2.7 Record Layout

Please see the attached document.



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