



Project Design Specification

# Microsoft Dynamics GP Purchasing Façade for ServiceTrax

Presented to:  
**Omni Workspace Company**

January 10, 2008

Microsoft Dynamics Great Plains | Microsoft Dynamics Customer Relationship Management |  
Business Services | Manufacturing | Distribution | Telecommunications |  
Information Technology Solutions

223 Little Canada Road, St. Paul, Minnesota 55117 651-483-4521

## Contents

<b>Section I – Critical Issues and Success Criteria .....</b>	<b>1</b>
<b>Section II – Our Proposed Solution .....</b>	<b>2</b>
2.1 – A Proposed Layout for the Purchasing Interface in ServiceTrax .....	2
2.1.1 – Changes to Service Request Page .....	2
2.1.2 – Creation of a New Purchase Order .....	3
2.1.3 – Creating New Vendors and Vendor Addresses .....	4
2.1.4 – Editing Existing Purchase Orders .....	4
2.1.5 – Marking Purchase Orders as Complete .....	4
2.2 – The Purchasing Process from the GP Perspective .....	5
2.2.1 – Affect to the General Ledger .....	5
2.3 – The Microsoft Dynamics GP Purchasing Façade .....	6
2.3.1 – ServiceTrax to GP Item Mapping .....	6
2.3.2 – Purchasing Façade Stored Procedures .....	6
2.4 – Changes to the GP Interface to Support Purchasing Façade .....	10
2.4.1 – Locking fields in the Purchasing Vendor Detail Entry window .....	10
2.5 – Implementation and Training on GP Purchase Order Processing Module .....	10
2.6 – Coordination between ApexIT and OTT .....	10
<b>Section III – Design Revision History .....</b>	<b>11</b>
<b>Section IV – The Olsen Thielen Technologies’ Difference .....</b>	<b>12</b>
The Trusted Partner Path™ .....	12
The Development Services Process .....	14
<b>Section V – Your Project Team .....</b>	<b>15</b>
Ron Draganowski .....	16
Dan L. Liebl, CMA, CPIM .....	17
<b>Section VI – About Olsen Thielen Technologies .....</b>	<b>18</b>
Personalized Service You Can Count On .....	18
Olsen Thielen Technologies – A “People-First” Philosophy .....	18
Integrated Services .....	19
<b>Section VII – Engagement Details .....</b>	<b>20</b>
7.1 - Solution Investment .....	20
7.2 - Change Management .....	20
7.3 - General Timeline .....	20
7.4 - Responsibilities .....	21
7.5 - Implementation of this Solution .....	21
7.6 - Acceptance of this Agreement .....	21
<b>Section VIII – Terms and Conditions .....</b>	<b>22</b>
8.1 - Payment Terms .....	22
8.2 - Confidentiality .....	22
8.3 - Limit of Liability .....	23
8.4 - Termination of this Agreement .....	23

## Section I – Critical Issues and Success Criteria

Omni Workspace Company is looking to implement a purchasing process based in ServiceTrax that interacts with Microsoft Dynamics GP 9.0. Through discussions with the project team at Omni Workspace Company, it was determined that a cooperative effort between the developers of ServiceTrax, ApexIT, and Olsen Thielen Technologies (OTT), we may be able to minimize the required investment in this functionality.

This document covers the solution discussed to this point, and what portions of the development would need to be conducted by ApexIT and OTT. This document also serves as the services proposal for the OTT portion of the required services.

To reach the desired goal of a fully functional purchasing system integrated with ServiceTrax and GP, the following success criteria must be met:

- A purchasing interface used and managed through the ServiceTrax Job Maintenance page
- This new purchasing interface must be as easy to use as possible as its users will have a wide range of PC skill levels.
- Full utilization of the GP ERP for managing the purchasing process without having to develop an independent purchasing flow within ServiceTrax
- A minimum amount of consulting investment by utilizing the strengths of each business partner, ApexIT and OTT

## Section II – Our Proposed Solution

### Solution Overview

#### 2.1 – A Proposed Layout for the Purchasing Interface in ServiceTrax

Since the design of the GP Purchasing Façade is so dependent on the created interface in ServiceTrax, it seems important to document what that interface has been proposed to be. The layout does not need to look exactly as detailed below. It should instead be consistent with other pages contained within the ServiceTrax application. However, what the pages contain and how they work directly affects the design of the GP Purchasing Façade. Any changes to the interface should be communicated to OTT, as it may require a revision to this project design document.

##### 2.1.1 – Changes to Service Request Page

ServiceTrax - Powered by Omni Workspace Company - Windows Internet Explorer

http://172.17.17.245/ms/action/setProjectDatum?project\_id=85567&templateName=enet/proj/pl\_main.html&request\_id=231980&oc=service\_request

File Edit View Favorites Tools Help

ServiceTrax - Powered by Omni Workspace Company

Welcome Jeff Katzenberger - Minneapolis Logout Change Location Navigator

Project Folder Service Request Quote Request Quotes Documents Job Progress

Service Request Detail

Create New Request Number

Omni Quote Number: B4080-1.1

Omni Project Manager: SCOTT ANDERSON-USER

Project Name: TEST END USER SPECIAL RATE

Customer Name: TCI

Contacts:

BARB SOBERSKI-USER

(612)343-5873(W), 612-385-5843(C)

barb.soberski@target.com

Job Scope:

Omni Schedule with Client: Yes

Schedule Type: Date&Time

Requested Service Date: 12/3/2007

Requested Start Time:

Requested Completion Date: 12/3/2007

Number of Days to Complete: 1

Systems Furniture: AIS

Shipping Method: Direct

Other Furniture: No

Shipping Method: N/A

Extra Product Disposition: None

Wall Mount: Yes

Delivery Conditions: Dock Access with Elevator

Stair Carry Required: Yes

Narrative Work Request

TEST SPECIAL RATES

Print Service Request

Type of Service: Furniture

Omni Sales Person: NA-USER

End User Name: TEST DLR END USER

Job Location: NORTHWESTERN MUTUAL FINANCIAL

Address: 9201 Eden Ave. Suite 200

City/State/Zip: Edina MN 55436

Contact: PATTE

Phone: 952-445-6649(W)

Email:

Billing Information:

Purchase Order: 1

PO Line Number: 1

Billing Type: Flat Fee Bid

Sales Tax: Yes

Order Type: Original Order

Customer Costing: To Job

Attachment Upload:

Name	Created By	Date Created	Delete
Cda Mockup Stations2.pdf	Scott Anderson	12/20/2007	Delete

Select document: Browse... Add

To add a new document browse to the file and click Add

A list of purchase orders for each job should be displayed near the bottom of the Service Request page of ServiceTrax. This list of purchase orders may be queried from GP by calling the façade stored procedure [ott\\_spPOPGetPOsByJob](#) in the DYNAMICS Great Plains database.

Purchase Orders in this list that have not yet been received (POs with a status of 1 or 2) should have two available user actions for each PO: "Edit" or "Complete". Edit will allow the user to change the previously created PO, while Complete will allow the user to create a Purchasing Receipt in GP for the selected purchase order. Each of these options is discussed later in this section.

## 2.1.2 – Creation of a New Purchase Order

**Enter New Purchase Order - Windows Internet Explorer**

http://localhost:2426/Default2.aspx

Enter New Purchase Order

**PO Number** (new)

**Vendor Name** Mike's Laborers **New**

**Vendor Address** 123 4th St., St. Paul, MN 55117 **New**

**Labor Type** ☒ Time and Materials ☐ Fixed Fee

**Labor Hours** 40

**Labor Rate** \$50.00 (per hour)

**Labor Total** \$2,000.00

**Materials Total** \$300.00

**PO Total** \$2,300.00

**Comments**

**PO Status** New

Done Local intranet 100%

The purchase order entry window in ServiceTrax should collect the information shown in the example above. Below are details on this form.

- It will be up to ApexIT whether to allow the user to choose a vendor from a drop-down list or via a lookup form. In either case, a list of vendors needs to be queried from GP. This can be done by calling the purchasing façade procedure
- The Vendor Name list can be populated by calling the façade procedure [ott spPOPGetVendorList](#)
- Both Vendor Name and Vendor Address are actually controlled by primary key values of Vendor ID (char 15) and Address ID (char 15). The web form will need to correspond values in the drop down list to their actual IDs, since the GP purchasing façade will only accept actual IDs. (Vendor names are not controlled as a unique value)
- When a vendor is selected from the Vendor Name list, the list of addresses for that vendor will be automatically populated using the façade procedure [ott spPOPGetVendorAddresses](#). The returned value for "DefaultBillToAddressID" should be automatically selected from the Vendor Address drop down list.
- The screen shot above shows a "New" button for both vendors and vendor addresses. However, it is currently thought that users will not be allowed to create new vendors or vendor addresses from

ServicesTrax. Instead, some process remains to be developed as to how a request for new vendor/vendor address will be communicated to Finance.

- The PO Total field is always calculated automatically as the sum of the Labor Total and Materials Total fields
- The maximum length for the PO comments is 500 characters.
- If the user chooses a Labor Type of “Time and Materials”, then the Labor Total field is calculated automatically. If the Labor Type is Fixed Fee, then Labor Hours and Labor Rate are disabled, and the user may enter the Labor Total manually.
- When all information has been completed for the purchase order, a PO may be created in Great Plains by calling the stored procedure [ott\\_spPOPCreateUpdatePO](#) in the DYNAMICS database.

### 2.1.3 – Creating New Vendors and Vendor Addresses

As discussed previously, it is currently thought that users will not be allowed to create new vendors or vendor addresses from ServicesTrax. Instead, some process remains to be developed as to how a request for new vendor/vendor address will be communicated to Finance.

### 2.1.4 – Editing Existing Purchase Orders

After a purchase order is created from ServiceTrax, it may be edited at any time prior to the work actually being completed. The list of Purchase Orders to be added to the Service Request Page should have an Edit option for these purchase orders which have not yet been received.

Below are the differences in editing existing POs versus creating new purchase orders:

- The actual PO number should be displayed to the user in the event they need to communicate with Omni Workspace headquarters regarding the transaction.
- The Labor Type may not be changed once the PO is created. The PO will need to be cancelled and re-entered if the terms of the purchase have changed.
- The Vendor may not be changed on existing POs

When a purchase order is edited, it could simply be edited in the same form as the “Enter Purchase Order” form previously discussed. To update GP the same stored procedure [ott\\_spPOPCreateUpdatePO](#) is called.

### 2.1.5 – Marking Purchase Orders as Complete

The list of purchase orders to be added to the “Service Request” form in ServiceTrax should also have a “Complete” option. Clicking the complete option will open a window similar to the “Create New PO Form”. In this “Complete/Receive Purchase Order” form the user can enter actual values to be received against the purchase order:

- If the Labor Type is Time and Materials, then the user will need to enter actual hours work, along with the Actual Materials dollar amount.
- If the Labor Type is Time and Materials, then the user will not need to enter any labor amount, only the Actual Materials dollar amount.

## 2.2 – The Purchasing Process from the GP Perspective

### 2.1.1 – Affect to the General Ledger

One of the first questions any accountant will ask when a new process is being established will be: “How does this affect the general ledger?” The following steps of the purchasing process will give examples of how this will flow on the GP side, and how that flow will post to the GL.

In the example below, a subcontractor is hired to install office furniture. The job is time and materials, and the subcontractor estimates 40 hours at \$50/hr, as well as \$300 in supplies.

#### Purchase Order Created

When a purchase order is created via ServiceTrax, it will have two lines, subcontractor labor at \$2000 (40 x \$50), and Supplies of \$300. At the time the PO is created, no GL activity takes place.

#### Purchase Order Received (Services Completed)

Once a purchase order is marked as received in ServiceTrax, a “Receivings Transaction Entry” will be created in GP to indicate that the PO has been completed, and that an invoice is forthcoming. The ServiceTrax user should enter, to the best of his or her knowledge, the actual costs incurred. Let’s say the subcontractor contacts the project manager and says the job is done, and it was actually a 45 hour job, and supplies used came to \$275.00. The following GL entry will be made at this point in time:

GL Account	Debit Amount	Credit Amount
Cost of Sales (Subcontractor Expense)	\$2,250.00	
Cost of Sales (Supplies Expense)	\$275.00	
Accrued Purchases		\$2,525.00

Please note the following:

- The GL accounts default from the item numbers used on the purchase order. A mapping matrix will need to be created between GP and ServiceTrax so the correct items will be used.
- This doesn’t affect the purchase price variance account, since this is the actual work performed.

#### Invoice Received from Subcontractor

When an invoice arrives from a subcontractor, let’s say there were a couple of mistakes. The bill has an hourly rate of \$55/hr, which the subcontractor insists was clearly communicated to the project manager. It’s decided that Omni will just pay this higher rate. Also, actual supplies were only invoiced at \$255, since the original amount included tax, which was not charged on the invoice because of the resale. Here’s how it will post to the GL:

GL Account	Debit Amount	Credit Amount
Purchase Price Variance – Subcontractor Expense	\$225.00	
Purchase Price Variance – Supplies		\$20.00
Accrued Purchases	\$2,525.00	
Accounts Payable		\$2,730.00

Please note the following:

- PPV accounts can be setup unique to GP item number. So this can be as detailed or summarized as you like, based on you GP item numbers are mapped to Type of Service in ServiceTrax.



## 2.3 – The Microsoft Dynamics GP Purchasing Façade

In order to add purchasing functionality to ServiceTrax, Omni Workspace Company could either build a new purchasing system in ServiceTrax, or utilize the purchasing system with Microsoft Dynamics GP. This document assumes the later. The Purchase Order Processing (POP) module in Microsoft Dynamics GP is very robust and supports all necessary accruals during the purchasing lifecycle. However, integrating to this module can be cumbersome.

The purpose of this “Purchasing Façade” for Microsoft Dynamics GP is to simplify integration to the POP module for the ServiceTrax developers. It will create a separation of expertise, where Olsen Thielen Technologies can apply their expertise in understanding the GP product, and ApexIT may focus their talents on changes to the ServiceTrax interface and hooking up those changes to the Purchasing Façade.

### 2.3.1 – ServiceTrax to GP Item Mapping

A mapping table must be created that will allow the Omni Workspace finance team the ability to map ServiceTrax purchase order buckets to corresponding inventory items in GP. Since the user will need to know the appropriate values for the TypeOfService that is passed from ServiceTrax, and since this information will rarely change, a user interface will not be created at this time. This mapping will need to be setup at the database level.

Below is the layout for this table:

**Table Name: ott\_POItemMapping**

Column Name	Data Type	Comments
TypeOfService	Char(15)	Unique identifier (alphanumeric) for a type of service in ServiceTrax (such as Furniture, National Services, etc.)
AmountType	Smallint	1=Labor-ALL 2=Labor-T&M Only 3=Labor-Fixed Price Only 4=Materials
GPItemNum	Char(31)	Great Plains item number (corresponds to IV00101.ITEMNMBR, or “Item Number” in Item Number Maintenance window in GP.

Note that if the same GP item number is used for both fixed price and time and materials purchases, the user can select an AmountType of Labor-ALL (value of 1) for the mapping. Values 2 and 3 are only needed if Omni decides to be more granular in GL coding based on the type of labor, T&M verses fixed fee.

If for some reason a TypeOfService from ServiceTrax is mapped to both Labor-ALL and Labor-T&M, the GP Item number for the Labor-T&M mapping will be used, since it is more specific.

### 2.3.2 – Purchasing Façade Stored Procedures

The GP Purchasing Façade is essentially just a collection of stored procedures. They are listed below.

#### **ott\_spPOPGetPOsByJob**

**Description:** Returns a list of purchase orders from GP for a specific business unit and Job ID. If the optional PO Number is supplied, only one record is returned for the matching PO Number for the specified business unit.



Parameter Name	Data Type	Comments
@BusinessUnit	Char(5)	Identifier that represents GP company database
@JobID	Char(11)	ServiceTrax Job ID. Corresponds to "Contract Number" on Purchase Order in GP.
@PONumber	Char(17)	OPTIONAL. Use this parameter if you want to only view details for a specific purchase order

This stored procedure returns the following result set:

Column Name	Data Type	Comments
PONumber	Char(15)	Unique Purchase Order Number from GP
PODate	Datetime	
RequestedCompletionDate	Datetime	
LaborType	Smallint	1 = Time and Materials, 2 = Fixed
LaborHours	Numeric(19,5)	Only applicable when LaborType = 1
LaborRate	Numeric(19,5)	Only applicable when LaborType = 1
LaborTotal	Numeric(19,5)	
MaterialsTotal	Numeric(19,5)	
CommentFlag	Bit	0 = no "narrative work request", 1 = "narrative work request" exists
StatusID	Smallint	1 = "New"; 2 = "Released"; 3 = "Received"; 4 = "Invoiced/Closed"; 5 = "Cancelled"
StatusIDText	Varchar(30)	Shows the appropriate text label for StatusID

#### *ott\_spPOPGetVendorList*

**Description:** Returns a list of Vendors from GP for a specified Business Unit (GP database name)

Parameter Name	Data Type	Comments
@BusinessUnit	Char(5)	Identifier that represents GP company database

This stored procedure returns the following result set:

Column Name	Data Type	Comments
VendorID	Char(15)	PrimaryKey
VendorName	Char(65)	
AddressLine1	Char(61)	
AddressLine2	Char(61)	
City	Char(35)	
State	Char(29)	
Zip	Char(11)	
CountryCode	Char(7)	Should always be "USA" until other countries added
ContactPerson	Char(61)	
Phone1	Char(21)	
PrimaryBillToAddressID	Char(15)	This is the Address ID for the primary bill to address. This may differ from the "Primary Address" information returned in previous columns.

### *ott\_spPOPGetVendorAddresses*

**Description:** Returns a list of all addresses for a given vendor. The Address ID for the primary Bill to Address is returned. When populating a combo box of addresses, this address should be selected by default.

Parameter Name	Data Type	Comments
@BusinessUnit	Char(5)	Identifier that represents GP company database
@VendorID	Char(15)	
@outPrimaryBillToAddressID	Char(15) output	This is the address that should be selected by default after the address drop down list is populated.

This stored procedure returns the following result set:

Column Name	Data Type	Comments
BusinessUnit	Char(5)	
VendorID	Char(15)	
AddressID	Char(15)	Primary Identifier for address record
AddressLine1	Char(61)	
AddressLine2	Char(61)	
City	Char(35)	
State	Char(29)	
Zip	Char(11)	
CountryCode	Char(7)	Should always be "USA" until other countries added
ContactPerson	Char(61)	
Phone1	Char(21)	Formatted XXXXXXXXXXXXXXXX, where last 4 digits are a possible four digit extension

### *ott\_spPOPCreateUpdatePO*

**Description:** Calling this procedure will either create a new purchase order or update an existing purchase order. Only purchase orders which have not yet been received can be updated.

Parameter Name	Data Type	Comments
@BusinessUnit	Char(5)	Identifier that represents GP company database
@TypeOfService	Char(15)	Corresponds to ott_POPIItemMapping table described above. The value passed here affects which item numbers will be selected on the PO in Great Plains.
@inoutPONumber	Char(17) output	OPTIONAL. For creating new purchase orders, this parameter may be left blank. In either creates or updates, the PO Number for the PO affected will be returned
@POStatus	Smallint	OPTIONAL. Possible values: 1=New (default) 2=Released (indicating PO was printed) 5=Cancelled (closing PO without receiving) If the PO Status is already 2, this procedure will not regress the status back to 1 under any circumstances, nor will it through an error. The default of 1 or an explicitly passed Status value lower than the current status value will be ignored.

@JobID	Char(11)	ServiceTrax Job Number (to be stored in the “Contract Number” field in the Purchasing Vendor Detail Entry window)
@VendorID	Char(15)	May not be changed on existing purchase orders.
@BillToAddressID	Char(15)	
@LaborType	Smallint	1 = Time and Materials, 2 = Fixed Amount; This value will be stored in the “Confirm With” field in the Purchasing Vendor Detail Entry window. May not be changed on existing POs.
@LaborHours	Numeric(19,5)	Only required when Labor Type = 1
@LaborRate	Numeric(19,5)	Only required when Labor Type = 1
@LaborTotal	Numeric(19,5)	Only required when Labor Type = 2
@MaterialsTotal	Numeric(19,5)	
@CommentText	Varchar(500)	
@outErrStatus	Int output	0 = no error, any other value indicates error
@outErrMsg	Varchar(255) output	Error message if @outErrStatus < > 0

On the GP side we will eliminate some potential data integrity issues by using constants for the POP line sequence numbers to control which PO line is for labor and which is for materials. All PO labor lines created from ServiceTrax will have a ORD (line sequence) value of 550, and materials lines will have an ORD value of 1100.

#### *ott\_spPOPCreatePOReceipt*

**Description:** Calling this stored procedure will create a Purchasing Receipt against a purchase order with a status of either “New” or “Released”. This stored procedure will not allow a Purchasing Receipt to be created when another exists for the same PO. Any deviations must be handled within the GP interface.

Parameter Name	Data Type	Comments
@BusinessUnit	Char(5)	Identifier that represents GP company database
@PONumber	Char(17)	PO Number being received against
@ActualLaborHours	Numeric(19,5)	Only required when Labor Type = 1
@ActualLaborRate	Numeric(19,5)	Only required when Labor Type = 1
@ActualLaborTotal	Numeric(19,5)	Only required when Labor Type = 2
@ActualMaterialsTotal	Numeric(19,5)	
@outErrStatus	Int output	0 = no error, any other value indicates error
@outErrMsg	Varchar(255) output	Error message if @outErrStatus < > 0

## **2.4 – Changes to the GP Interface to Support Purchasing Façade**

A minimal amount of functionality will be added to GP to maintain integrity between GP and ServiceTrax. The following sections detail this functionality.

### **2.4.1 – Locking fields in the Purchasing Vendor Detail Entry window**

Whenever the Purchasing Vendor Detail Entry window is opened from the Purchase Order Entry window in GP, if the “Contract Number” and “Confirm With” fields are both completed, new functionality will automatically lock both of these fields. These fields are populated from ServiceTrax, and should not be edited by the user.

## **2.5 – Implementation and Training on GP Purchase Order Processing Module**

The scope of this document also includes the implementation (if necessary) and setup of the Purchase Order Processing module in Microsoft Dynamics GP, along with a one half (½) day onsite user training session.

Any support or training outside of this session will be outside the scope of this agreement, but general support questions can be answered on the OTT Technical Support line (651-486-4594) as they arise as part of Omni Workspace’s prepaid support agreement.

## **2.6 – Coordination between ApexIT and OTT**

OTT consultants will make themselves available to ApexIT developers to answer any questions. However, any discussions or time spent working together will be considered outside the scope of this document, and will be billed separately on a time and materials basis.

## Section III – Design Revision History

This is the initial draft of the Project Design Specification. The changes made in any future releases of this document will be listed in this section.