

# Oracle e-Business Suite Order Management to Service Contracts Integration

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## Introduction

Oracle Service Contracts module provides customers with the functionality to maintain service agreements and bill for service, usage and subscriptions. Several Oracle customers sell service along with their products (physical and tangible) which is fulfilled using Order Management and Shipping Modules. Oracle e-Business Suite supports some key transactions in this area, however, gaps remain and several customers have built integrations to create contracts automatically on Order fulfillment or are entering contracts manually in the Service Contracts module.

This paper addresses the solution needed to integrate Order Management and Service Contracts, so that duplicate data entry is avoided.

## Out-of-the-Box Functionality

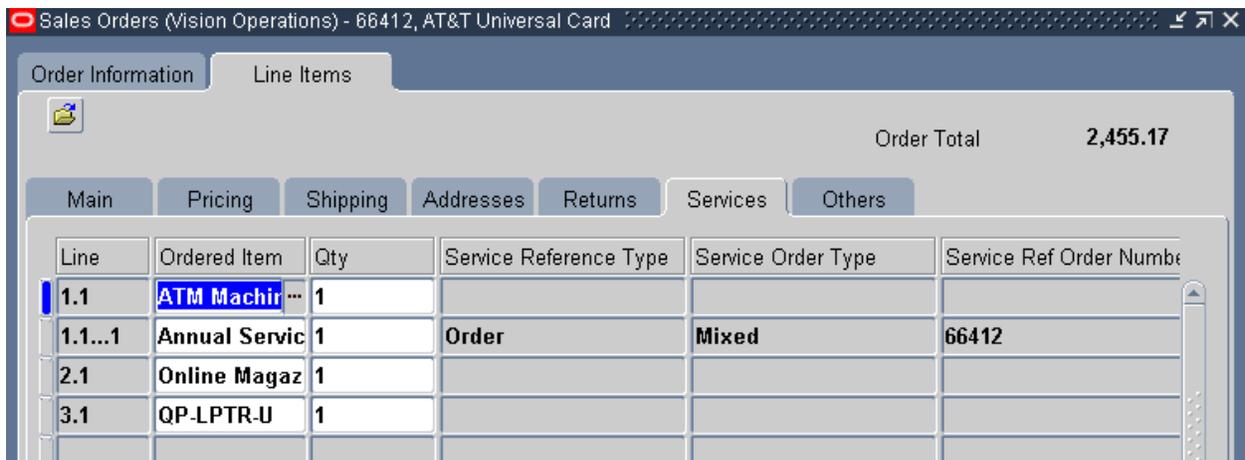
Service Contracts module supports the maintenance, billing and entitlement/fulfillment processing of three main types of services:

- Service
- Subscription
- Usage

## Service Items

Oracle supports selling Warranty and Extended Warranty items along with the order. Warranty items are defined with the attribute, Contract Item Type = Warranty, on the Item Master and is added to the products bill of material. On shipment of these Orders, contract of the category “Warranty and Extended Warranty” is created. Addition of service lines to an existing customer product is also supported by referencing the install base product. The service lines entered on the Order can also be added to an existing contract through the Service Contract Details screen.

Below is the screen shot of a typical order with extended warranty or “Service” items attached.



The screenshot shows the Oracle e-Business Suite Order Management interface. The window title is "Sales Orders (Vision Operations) - 66412, AT&T Universal Card". The "Order Information" tab is active, and the "Line Items" sub-tab is selected. The "Order Total" is displayed as 2,455.17. The interface includes navigation tabs for Main, Pricing, Shipping, Addresses, Returns, Services, and Others. A table displays the order lines:

Line	Ordered Item	Qty	Service Reference Type	Service Order Type	Service Ref Order Number
1.1	ATM Machin...	1			
1.1...1	Annual Servic	1	Order	Mixed	66412
2.1	Online Magaz	1			
3.1	QP-LPTR-U	1			

The below screen shot shows the Service Contracts Detail screen which provides the ability to add the service line entered on the order to an existing contract and set renewal options.

Contract Details

Order Number: 66412    Order Line Number: 1    Customer Name: AT&T Universal Card

Service Ordered: Annual Service Pro    Start Date:    End Date:   

Apply All     Line Renewal Type: Full Duration

Merging Rules

New

Renewal: Renewal Process: Online    Approval: Manual

PO Required     Billing Profile:    Repricing Details: Renewal Pricing Type: Manual    Price List:    Markup(%):

Quote To: Contact:    Address:    Email:    Phone:    Fax:   

Role	Name	Address

Existing

Type: Contract    Contract Number:    Start Date:    End Date:   

When the Order is interfaced through Service Contracts Order Processing Program and the install base record is created through SFM, a contract is created assuming one time billing through Order Management to Accounts Receivables interface. This contract provides service coverage and entitlement to the covered product.

Service Contracts Authoring (Vision Operations: USD)

Number: 13931    Version: 0.0    Status: Expired    Negotiation Status: Complete

Order:    Start Date: 27-FEB-2001    End Date: 26-FEB-2002    Subtotal: 0.00 USD

Known As:    Duration: 1    Period: Year    Tax: 0.00

Description: CUSTOMER : Imaging Innovations, Inc. Warranty/Extend    Category: Warranty and E    Total: 0.00

Summary    Lines

Line	Line Type	Name	Line Ref	Order / Line	Account	Location	Account	Location
1	Warranty	WR11531			1006		1006	Toronto (OPS)

Bill To: Party: Computer Service and Rentals    Ship To: Party: Computer Service and Rentals

Address:    Address: 50 King Street Toronto Ontario M5H3Y2 Canada

Role	Name	Address	Start Date	End Date

Following gap exists in this process of selling services bundled with Order:

- Support for repetitive billing and flexible billing schedule for the initial duration of the contract. The contract can be renewed with flexible billing schedule for the following year.

### Subscription Items

Subscription Items are intangible products for billing and delivering subscription based services (like Magazine fulfillment). Subscription Items are a separate item type, as specified by the Contract Item Type attribute on the Item Master. Subscription items are associated with a subscription fulfillment template defined in the service contracts module. The fulfillment template contains the schedule in which the subscription is fulfilled usually with new orders through Order Management.

Subscription items are customer ordered and OE transactable, so they can be added to the Order line. However, gaps remain with processing these orders and creating subscription contracts.

- Subscription items, depending on if the product is tangible (Magazines) or intangible (online access and such) have to be set as Shippable Inventory item, which when placed on an order will mean using a workflow process that does not include billing or shipping as these products are not generally shipped as part of the order but through service contracts module.
- Pricing of subscription has two variables – quantity of item ordered and the duration. For example, a product subscribed for a period of two years is twice as expensive as the same subscription for one year, not considering any discounts etc. Also, ordering a quantity of two each of the same item will in general double the price. This functionality is supported in the service contracts authoring screens and not through Order Management.
- Subscription items do not interface to contracts automatically.

The table below gives a few examples of the pricing scenarios with subscription contracts.

	Subscription Fulfilment Schedule	Price	Subscription Duration	Computed Price
1	Monthly	\$10/Ea	1 Year	\$10*12 (Monthly) = \$120/Year
2	Yearly	\$100/Ea	1 Year	\$100/Year
3	Weekly	\$5/Ea	1 Year	52*\$5 = \$110.00/Year

This paper will discuss some options to price subscriptions through Order Management using Advanced Pricing.

### Usage Items

Usage items can be entered on the order line, but does not get transferred to service contracts automatically through the interface. Usage items are billed using Pricing Breaks or tier based pricing. Order management price break support is different from how contracts module views pricing which is implemented based on counters.

The next sections address the requirement to integrate Order Management and Service Contracts to automatically transfer information entered in Order Management to service contracts by item type.

### Integration requirements and design

At a high level, the requirement is to avoid duplicate entry between the two modules. Most customers require the ability enter information either in Quotes or Orders and pass this to contracts and create a complete contract that supports periodic billing, is updateable, renewable, provides necessary entitlement and subscription fulfillment.

### Service Items

Warranty and Extended Warranty contracts are inherently supported in Oracle, so we will focus on Service programs. The table below shows some commonly needed attributes for creating a service contract and how they can be derived from the Order. The attributes that are not provided out-of-the-box can be entered either as a descriptive flexfield or through Pricing attributes. Pricing attributes are used when that attribute has a bearing on the total order price like Contract Duration.

When selling Service items, it is recommended to enter any Extended Warranty items (services that are billed one time and need not be updated in the contracts module) also as standard service items and stop running Service Contracts Order Processing program. This program creates extended warranty contracts which will be a duplication of the contract the custom interface will create.

	Attribute	Recommended input area	Recommended Practice
1	Item Number	Standard Service Item field on Order line	
2	Start date of contract		This is usually the date of shipment of the order with a service starting delay. Can be derived based on shipment date.  Some customers will start the contract at the beginning of the month. In these cases use the Start Date of service on the order line.
3	Customer Information	Standard customer fields on the order.	In some cases, a Third Party may be used to bill the contract. In these situations, create an account relationship between bill to and ship to accounts where possible and create the contract with Third party relationship.
4	Duration	Standard Order line field	Since pricing is dependant on the number of years of service, the best place is to enter this is the standard field.
5	Billing Frequency	Descriptive Flexfield	Billing Frequency like Monthly, Quarterly etc. can be input on a flexfield.
6	Renewal Option	Service Contracts Details screen, Flexfield or Pricing Attribute	Renewal Option sometimes may affect pricing. Example of this case could be the price may be lower with additional discount if the customer selects autorenewal option.  Use the Service Contracts Details (Order Line → Actions → Service Contact Details)
7	Contract Group	Default o Descriptive flexfield	Contract group is a required field when creating a contract. This may sometimes be mapped to Items through Item Categories. Consider the option of using Item Categories mapped to Contract groups. If this option is not possible and there is a need to define different contract groups, a descriptive flexfield can be used.
8	Price list	Standard Price list field	The recommended practice is to add the service item to the same price list as the product.  Price list is important as this may affect renewals.

	Attribute	Recommended input area	Recommended Practice
			Contracts APIs recalculate the price if a price list, attributes and item information is passed. Ensure the price is implicitly passed to the contracts creation program. A few challenges exist with pricing the contract through OM, which will be discussed in the later sections.
9	Payment Terms	Order standard field	Payment term is usually a corporate wide policy, which usually does not differ between Products and service items.
10	Salesperson	Standard field	Primary salesperson from the order is transferred as vendor contact = salesperson. Salescredits are transferred as is at the line level of the contract.
11	Description	Default	Contract description is a required field in service contracts module. Develop a convention to populate this information.

### Subscription Items

Subscription items generally have a unit of measure of Quantity (Each, Dozen etc.) as the item being fulfilled could be a tangible item like magazines, newspapers, CDs etc. or could be online access which could be sold for multiple users.

For tangible items, the items are set with the shippable attribute, so the using a standard order type with shipping nodes on the workflow will cause the item to be shipped out directly from order. So, subscription order lines should not contain the shipping node or the invoicing node if this has to be fulfilled and billed from Service Contracts.

Below table below shows fields used to create subscription contracts and the recommended derivation of fields from Order management.

	Attribute	Recommended input area	Recommended Practice
1	Customer Information	Standard Customer field	Subscription contracts are created with a category "Subscription Agreement" for which the party roles are Vendor, Subscriber and Third Party. For Third Party billing, create an account relationship between the subscriber so that the order can be entered with third party bill to.
2	Item Number	Item on the Order line	
3	Start date of contract	Use a descriptive flexfield on the order line.	
4	Quantity	Use standard Order line quantity field	

	Attribute	Recommended input area	Recommended Practice
5	Duration	Pricing Attribute	Since duration has a bearing on pricing as indicated above, enter duration on a pricing attribute. It is recommended to define duration as 1 Yr, 2 Yr etc instead of using two separate fields. Customers usually have standard subscription plans for a given duration.
6	Billing Frequency	Descriptive Flexfield	Billing Frequency like Monthly, Quarterly etc. can be input on a flexfield.
7	Renewal Option	Either Descriptive Flexfield or Pricing Attribute	Renewal Option sometimes may affect pricing. Example of this case could be the price may be lower with additional discount if the customer selects autorenewal option.  Use Descriptive flexfield when this does not impact pricing.
8	Contract Group	Descriptive flexfield	Contract group is a required field when creating a contract. This may sometimes be mapped to Items through Item Categories. Consider the option of using Item Categories mapped to Contract groups. If this option is not possible and there is a need to define different contract groups, a descriptive flexfield can be used.
9	Price list	Standard Price list field	Price list is important as this may affect renewals. Contracts APIs recalculate the price if a price list, attributes and item information is passed. Ensure the price is implicitly passed to the contracts creation program. Several pricing attributes may be required to price the subscription correctly.
10	Payment Terms	Order standard field	Payment term is usually a corporate wide policy, which usually does not differ between Products and service items.
11	Salesperson	Standard field	Primary salesperson from the order is transferred as vendor contact = salesperson. Salescredits are transferred as is at the line level of the contract.
12	Description	Default	Contract description is a required field in service contracts module. Develop a convention to populate this information.

### Usage Items

Ordering usage items pose the most significant challenge of all item types that service contracts support. The difficulty is centered on handling pricing. Usage is generally priced in pricing tiers. Below is an illustration of how usage pricing works in service contracts module. There are two types of usage pricing in service contracts: Point and Range.

### Usage Pricing:

Point pricing is explained in the example below:

Pricing Tier	From	To	Price (\$)
1	0	10000	.5
2	10000	20000	.4
3	20000	9999999999	.3

The usage count is entered using counters attached to the Install base product or service item and is computed during the billing run. In the above example, if the count is say, 1000, bill is generated for  $1000 * .5 = \$500.00$  and if the count is 15000, bill is generated for  $15000 * .4 = \$6000.00$ .

Consider the same counts for Range pricing, the bill calculated for 1000 will still be \$500.00 but the amount calculated for a count of 15000 will be  $(10000 * .5) + (15,000 - 10,000) * .4 = \$7,000.00$ .

The most significant gap when entering usage items on service contracts is entering discounts (either manual or automatic). When a usage item is entered on the order line, if the order quantity is 1, price is computed as 0.5 and the line total is will be \$.50.

There are a few options to show usage price, apply discounts and change the pricing tier as required through Order Management.

- Oracle Configurator – Configurator allows creation of custom attributes which can be used to capture price tiers.
- Descriptive Flexfield – as flexfields are structured in a single row, there will some limitation in the number of pricing tiers.
- Custom (Zoom) form – this is commonly used to store the usage price with the pricing tier. The information comes from advanced pricing using pricing APIs.

	Attribute	Recommended input area	Recommended Practice
1	Customer Information	Standard Customer field	Subscription contracts are created with a category “Subscription Agreement” for which the party roles are Vendor, Subscriber and Third Party. For Third Party billing, create an account relationship between the subscriber so that the order can be entered with third party bill to.
2	Item Number	Item on the Order line	
3	Start date of contract	Use a descriptive flexfield on the order line.	
4	Quantity	Standard field.	

	Attribute	Recommended input area	Recommended Practice
5	Duration	Pricing Attribute	Usage contracts are billed from counters, if there is any discounting that need to be applied for longer duration contract use pricing attribute. Else this can be on the descriptive flexfield.
6	Billing Frequency	Descriptive Flexfield	Billing Frequency like Monthly, Quarterly etc. can be input on a flexfield.
7	Renewal Option	Either Descriptive Flexfield or Pricing Attribute	Renewal Option sometimes may affect pricing. Example of this case could be the price may be lower with additional discount if the customer selects autorenewal option.  Use Descriptive flexfield when this does not impact pricing.
8	Contract Group	Descriptive flexfield	Contract group is a required field when creating a contract. This may sometimes be mapped to Items through Item Categories. Consider the option of using Item Categories mapped to Contract groups. If this option is not possible and there is a need to define different contract groups, a descriptive flexfield can be used.
9	Price list	Standard Price list field	Pricing of usage contracts in Order management generally need the use of Pricing APIs and Zoom form to store the discounted price. If Oracle configurator is used, pricing can be entered as an attribute on the configurator.  When transferring this to contract to Service Contracts module, ensure the price is locked.
10	Payment Terms	Order standard field	Payment term is usually a corporate wide policy, which usually does not differ between Products and service items.
11	Salesperson	Standard field	Primary salesperson from the order is transferred as vendor contact = salesperson.  Salescredits are transferred as is at the line level of the contract.
12	Description	Default	Contract description is a required field in service contracts module. Develop a convention to populate this information.
13	Billing Type	Descriptive Flexfield	Several organizations have standardized billing types and use one of the options available: Actual Per Period, Actual by Quantity, Fixed Price or Fixed Quantity.

## Other Considerations

**Order Acknowledgment Print:** Several organizations provide order acknowledgement forms to customers after order placement. Adding service to the order lines will mean changes to the Order Acknowledgement report to include information from pricing attributes, descriptive flexfield, configurator attributes and any custom tables.

**Repricing Functionality:** Service Contracts module provides the functionality to open the contract and reprice. Since pricing is done in Order Management, opening for update and repricing may cause price to change. The recommended approach is to bring the price locked for usage contracts and apply manual discount or adjustment to

match the price computed in OM, so that any accidental repricing will not change the price. The other option is to disable the reprice button if there is no requirement to create contracts in service contracts module.

**Workflow/Line Type selection:** When selecting or building workflow line type, consider the following:

- The service contract line should not be shippable. Remove any shipping nodes on the service contract line.
- The line should not interface to receivables.
- When the service is sold with a product, the service is eligible to interface only after the product is shipped. Use a workflow that stays in Booked status, so that the line can be cancelled if needed.
- The recommended practice is to include the contract interface as a node on the workflow. However, there are other techniques like building a concurrent program/process that will look at all eligible lines and create contract.

**Interface Design:** When building the interface, it is recommended to use an interface table to get data from the Order. Since Order /Order Lines are most likely to be closed when the contract is created, no update will be possible on the order. Including a screen for update and reprocessing of data is recommended.

**Credit Card Billing Support:** If using credit card payments in Oracle, Order Management supports entering Card Brand, Card holder's name, card number and expiration date. Service Contracts module supports Card Number, Expiration and Security code. Security code is not a required field and the card can be verified and authorized using credit card interface.

**Flexible Billing Schedule:** If the requirement is to create flexible billing schedule like multiple streams, prorated schedules etc., the best option is to create these contracts manually in Order management.

## Conclusion:

As is evident from this paper, OM to Service Contracts integration is a challenging interface to build due to the structural differences between the two modules. Below is a checklist for design and implementation of this interface:

- Analyze the requirements for entering service contracts items through Order Management with respect to data required and pricing.
- Design the flexfields, pricing attribute with user experience in mind. Distributing information in several screens will slow the process of Order entry.
- Design the correct workflow type based on the line type.
- Design the interface with the ability to reprocess transactions.
- Determine whether additional approval processes are required when the contract is created. There are technical options available through which the service contracts can be created in an active status.
- Create the contract in such a way that future updates are possible. Test the interface by performing all transactions on the contract created like Updates, Terminations, and Renewals etc.

## About the Author

Ravi Balakrishnan is an experienced information technology professional. . He is currently involved in managing ERP/CRM implementation and integration projects in Oracle e-Business Suite and Salesforce.com. He is a partner at Priso Technologies, a value driven services firm providing implementation, upgrade and integration solutions in Oracle e-business suite and salesforce.com. For additional information and inquiries, please contact at ravib@prisotechnologies.com.

Priso Technologies has deep experience in building solutions around Oracle Order Management and Service suite of applications.