Contracts for Post Sales Service in Oracle R12

Sabyasachi Chatterjee
Infosys Technologies Ltd.

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1. Introduction

In today's world, after sales Service is an integral part of business. For any product sold to a customer, domestic or industrial, be it as trivial as a wall clock or a luxury item like an automobile, or as critical an artificial lens going into the eyes of a patient suffering from some eye disease, the manufacturer in today's world has to come up with a promise of performance of the product, failing which the consequences can be grave.

There are instances round the globe where companies have strategically used the obligation of promise of performance of a product to their advantage as a source of further revenue. So, this promise is not just an obligation, it is a step forward towards further business and customer retention. This comes through various business tools. The common processes through which manufacturers deliver the promise of performance of the product sold are Warranties, Extended Warranties and Customized Service Programs.

A Warranty is a promise of performance of a product that goes to the customer at the time of sale of the product. The manufacturer decides beforehand the services which the customer is eligible for during the Warranty period. Generally across all businesses, the warranty is a part of the Bill of Material of the product and goes to the customer free of cost.

Taking services to the next level, companies offer Extended Warranties to customers. In many cases the manufacturer initiates a call to the customer just before expiry of the Warranty, offering him an Extended Warranty, which will give the customer the same or more services at a cost, thereby opening the avenue of further revenues to the company.

Customized Service Programs are service offerings customized to the needs of specific customers.

This paper explores implementation aspects of the concepts of Warranties, Extended Warranties and Customized Service Programs in Oracle R12. In the process it emphasizes on the Integration points of Oracle Service Contracts with Oracle Order management, Oracle Installed Base, Oracle Bills of Material and Oracle Advanced Pricing. It details the implementations of Warranties through the Bill of Materials of the product sold, the immediate and delayed sales options of extended warranties and the implementation of customized service programs. This paper also throws light on the linkage of an extended warranty to the Installed Base item instance through a new sales order, in case of a delayed purchase of an extended warranty

2. Oracle Customer Relationship Management Offerings

Before moving into the details of this paper it is important to have an understanding of Oracle's basket of offerings in Customer Relationship Management (CRM).

Oracle CRM is a part of the Oracle E-business Suite product. Oracle CRM offerings can be broadly classified into 3 Areas:

i)   CRM Foundation
ii)   Business Applications
iii)   Business Intelligence

CRM Foundation is built on the Oracle E-Business platform and provides basic building blocks for all other CRM Application areas. These building blocks include Task Management, Resource

Management, Territory Management, Business Rules Monitor etc. Business Application Area comprises of CRM modules like Teleservice, Telesales, Service Contracts and many others that model the various business processes like Marketing, Sales, Post-Sales Service and so on. Highly selective strategic information from the business application areas culminate into Business Intelligence, which has been categorized into Marketing & Sales Intelligence and Service Intelligence. This entire hierarchy of Oracle CRM offerings is represented below:

Oracle Customer Relationship Management					
Business Intellignce Areas	**Marketing & Sales Intelligence**			**Service Intelligence**	
Business Aplication Areas	Marketing	Quoting	Telesales	Teleservice	Depot Repair	Mobile Field Service
	Trade Management	Partner Management	Field Sales	Field Service	Contracts Core	iSupport
	Proposals	Incentive Compensation	Sales for Handhelds	Service Conracts	Knowledge Management	eMail Center
CRM Foundation	Task Management	Resource Management	Territory Management		Business Rule Monitor	
	Notes	Calender	1 to 1 Fulfilment		Interaction History	
	Escalation Management	Assignment Engine	Order Capture		HTML Stack	
Oracle Ebusiness Platform					

Fig. 2.1

Our main topic of discussion in this paper is Service Contracts, highlighted in the representation above.

3. Key Integrations of Oracle Service Contracts :

The following figure represents the key integrations of Oracle Service Contracts Module with other Oracle modules:
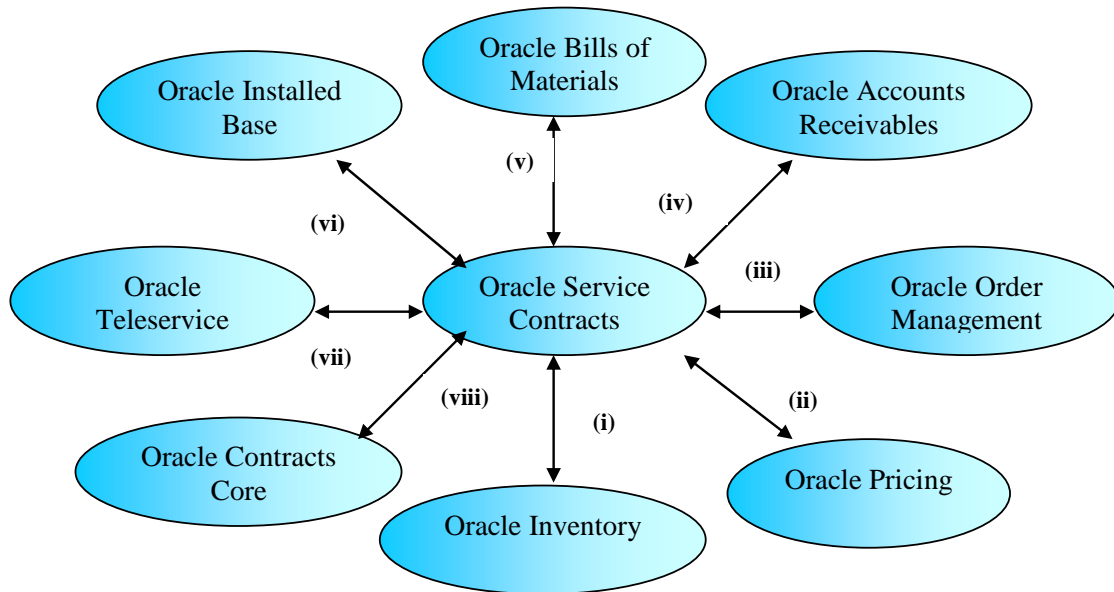
Legends:

(i) Creation of Service Items
(ii) Pricing a Service Contract
(iii) Ordering a Service Contract
(iv) Invoicing customer for a Service Contract
(v) Associating Warranty with Product
(vi) Linking Service Contract with Customer's Item Instance
(vii) Service Contracts applicable to a Customer
**(viii)** Contract Terms and Conditions

Fig 3.1

4. Service Coverage:

All service contracts, be it a Warranty, Extended Warranty or a Customized Service Program, are bound by conditions of service coverage. Service coverage typically describes a situation under which the customer is covered for service. Following are the details covered in Service Coverage:

Business Process: A business process is an area of business having a predefined set of functions. An organization may have one or more business processes. Consider an organization having two distinct areas of service, Customer Support and Depot Repair. Customer Support service area is a typical call center set up where all customer queries are answered and all customer complaints are logged. In Depot Repair service area, the customer's item is brought to the warehouse, repaired and the repaired product is returned to the customer. This scenario can be modeled in Oracle apps by defining two separate business processes, Customer Support and Depot Repair, and defining the set of functions performed under each.

Service Coverage specifies, for which business process is the coverage valid.
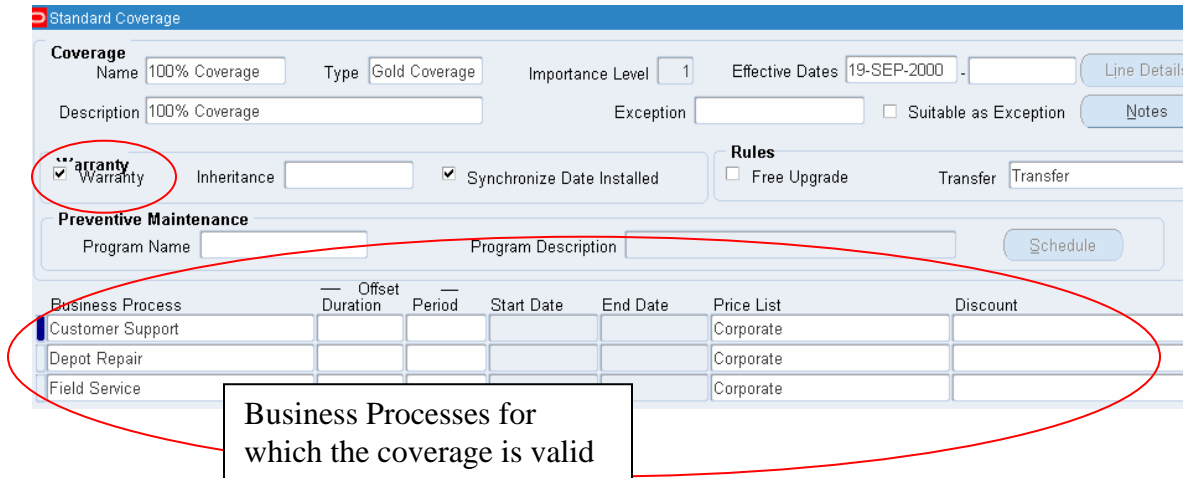

Fig 4.1

The service Coverage header also specifies if the coverage is a Warranty type of coverage or extended warranty / customized service program type of coverage.

Covered Times: Service Coverage also specifies the Time Zone, the hours of the day and the days of the week when the service is available.
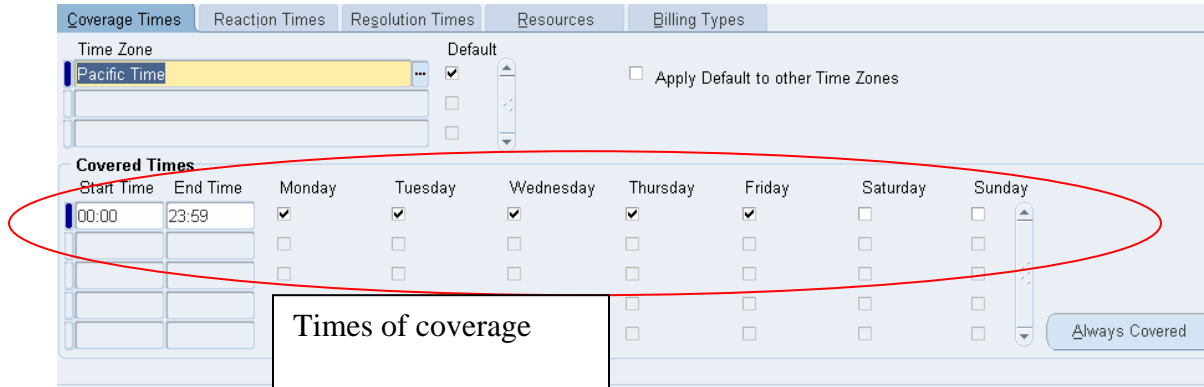
Fig 4.2

Reaction Times: Reaction time, indicated in the Service Coverage, is the time within which a customer will be attended to under the specific coverage.
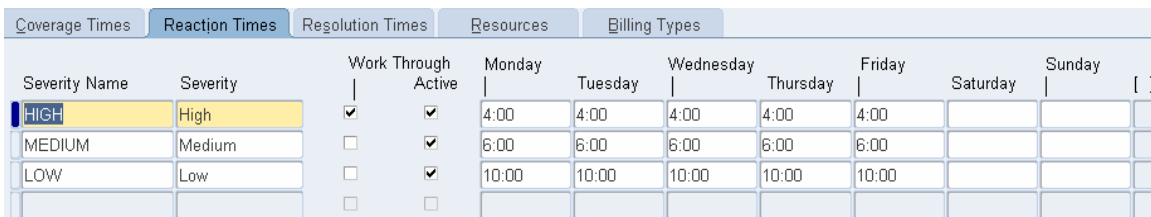
Fig 4.3

Resolution Times: Resolution time, indicated in the Service Coverage, is the time within which a customer will be given a resolution under the specific coverage.

Fig 4.4

Resources: Service Coverage also specifies the resources who will be attending to the customer under the service coverage.

Fig. 4.5

Billing Types: In Billing Types, the basis for charging the customer for a particular service is specified. The percentage of the total amount covered under the contract is indicated here.

If the 'Up to Amount' field is left blank, the upper limit is restricted by the percentage covered or discount entered in the % Covered field. % Covered field specifies the percentage covered under the contract.

Fig. 4.6

For example, if new parts have been installed to fix a problem at a customer site, the bill for the work needs to be calculated, taking the coverage on the service contract into account. If parts are covered 40% up to a maximum of $300, and the charge for parts was $800, after applying the rates agreed on the contract, the charge would be calculated as $500, after the maximum discount of $300 has been applied. For the same contract rates, if the charge for parts came to $500, the customer would receive the full 40% discount ($200) because the discount is below the $300 maximum.

The Allow Full Discount check box, if selected, provides 100% coverage for warranties without requiring setup of billing types.

5. Warranty

Warranty is an implicit contract between a customer and a selling organization by which the selling organization covers the product sold to the customer for planned / unplanned maintenance during the warranty period. A customer does not have to pay separately for a Warranty, it goes to the customer free of cost.

5.1 Overview

In this section this paper will explore the overview of implementation of Warranties.

The following is a pictorial representation of the various tasks, in sequence, involved in the implementation of product warranties in Oracle:
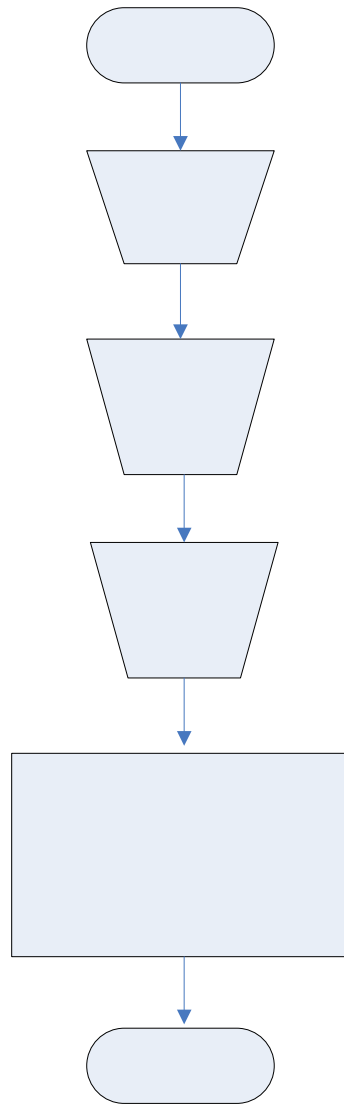
Fig 5.1

As seen in the representation above, the first step in the Warranty implementation process is the creation of a Service (Warranty) item.

All services in Oracle Applications, be it a warranty, an extended warranty or a customized service program, are modeled by the creation of a Service Item in Oracle Inventory. This service item that is created is linked to the product to which the warranty needs to be applied through the product's Bill of Material. On shipment of the sales order for the product, an item instance is created in Oracle Installed Base. This item instance has a unique serial number, an item instance number and has the warranty associated with it. These implementation aspects will be explored in course of this paper.

5.2 Module Integrations for Warranties

The following is a summary of how various Oracle Modules integrate for implementation of Warranties:

		Actions					
Oracle Modules		**Creation of Warranty Item**	**Linking the Warranty Item to the Product on which the Warranty will be applicable**	**Creation and Shipment of Sales Order**	**Creation of Warranty**		**Concurrent Programs**
	Oracle Inventory	✓					
	Oracle Bills of Material		✓				
	Oracle Order Management			✓			
	Oracle Service Contracts				✓	**Service Contracts Order Capture Integration**	
	Oracle Installed Base				✓		
	Oracle Teleservice				✓		

Fig 5.2

As seen above, a bill of material is created for the product, linking the service item to the product on which the warranty should apply. Once a Sales Order is created and shipped, an item instance is created in Oracle Installed Base, and the warranty is applied against the item instance.

5.3 Implementation Aspects

5.3.1 Creation of Warranty Items

Warranty Items are created in Oracle Inventory. These items have coverage templates associated with them which govern the conditions of coverage for the item.
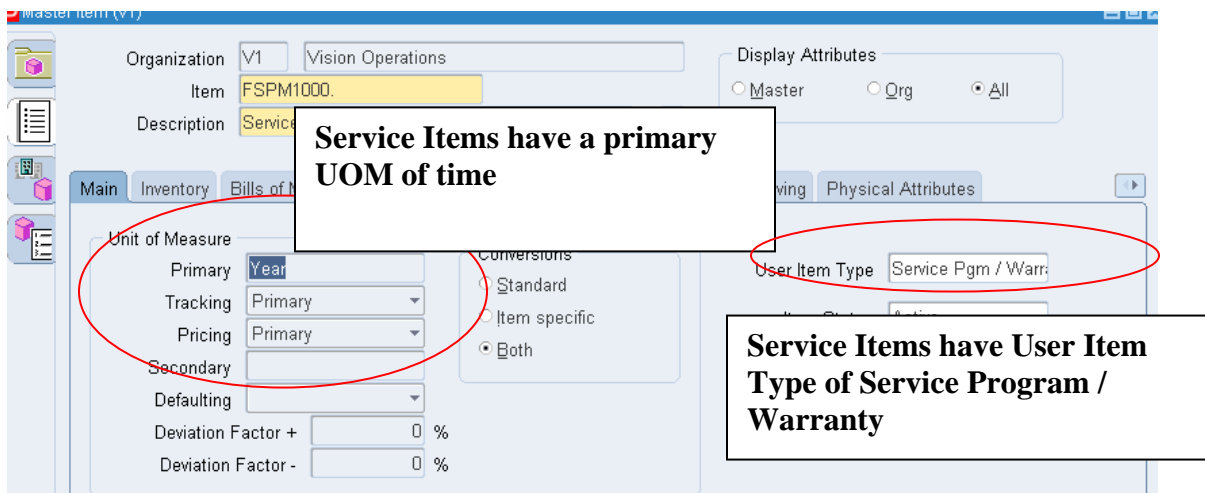

Service Items have a primary UOM of time

Service Items have User Item Type of Service Program / Warranty

Fig. 5.3

A Warranty Item is not Inventoriable, Stockable, Reservable or Transactable.

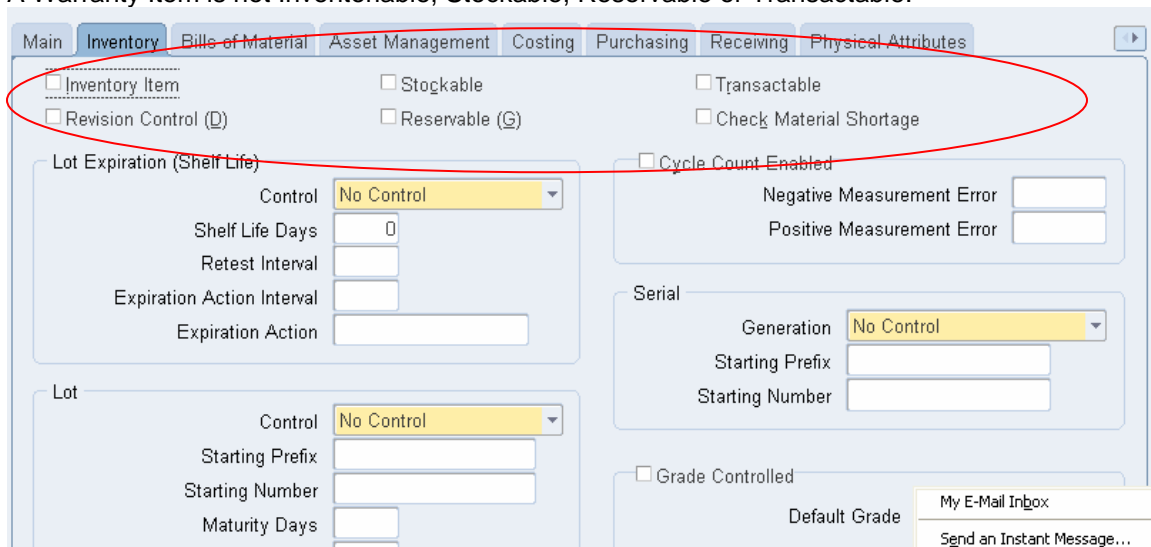**Fig. 5.4**

A Warranty Item also specifies the duration of service and the coverage template associated to it.

Fig. 5.5

The Service Item thus created carries the Duration of service and the coverage template associated with it. This Service Item will act as a basis of product warranty once the sales order for the product to which this item is linked is shipped.

A service starting delay can be defined for each serviceable product. Oracle Service adds the starting delay to the ship date of the serviceable product to set the start date for service programs and warranty activation. The service starting delay can be used to compensate for shipping and installation times, to ensure that customers receive service coverage for a product when they have the product with them.

5.3.2 Linking Warranty Item to the Product through Bill of Material

Warranty is a part of the bill of material of the product and goes to the customer free of cost. The Warranty item is associated to the product to which the warranty will apply through the Bill of Material of the product.

Fig. 5.6

5.3.3 Creation of an Item Instance

As discussed in section 5.2 Module Integrations for Warranties, shipment of Sales Order for the product creates an Item instance in Oracle Installed Base. A customer item is an instance of a particular item sold to an end customer or distributor, and is called an item instance. Oracle Installed Base, as a module, tracks the life cycle of an item instance. If an item is defined to be serial controlled at Sales Order issue, then the moment the item is shipped to the customer, an unique serial number gets assigned to the item instance. A item instance number is also assigned to the item instance. And Against the specific item instance, the Warranty gets applied.

When Items are defined in Oracle Inventory, they can be designated as Serviceable Items.

Fig. 5.7

When an item is designated as a serviceable item, Oracle Installed base will track the item. Each time a serviceable item is sold, an item instance will be created in Oracle Installed Base. Any item in Oracle Inventory can be defined as a serviceable item, including items that represent saleable products, spare parts, service exchange items, subassemblies, and components.

In Oracle Installed Base, an Item instance can be searched using multiple criteria like Item Instance Number, Owner Name, Serial Number, Sales Order Number etc.
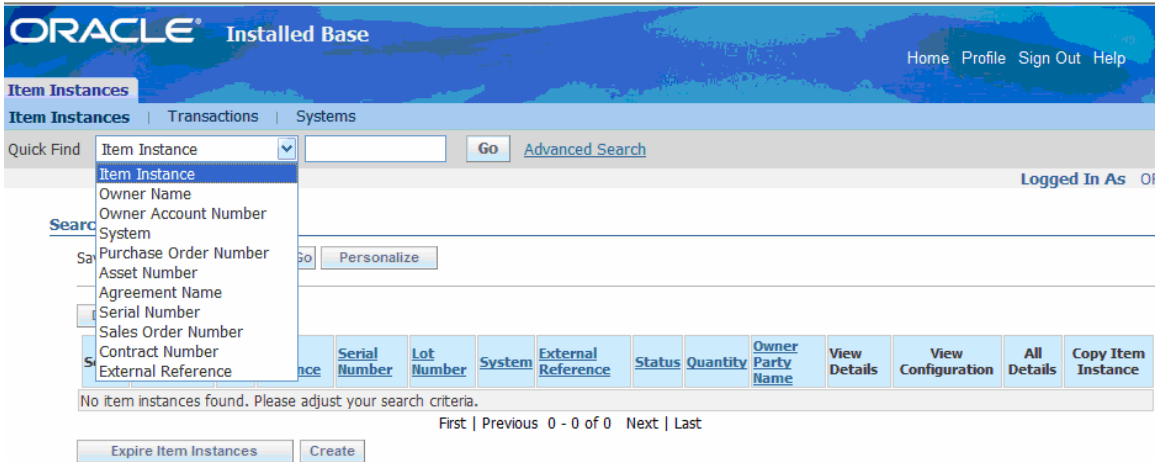
Fig. 5.8

If the search is conducted with the Sales Order number, for example, the item instance created as a result of shipment of that particular Sales Order will be displayed along with the Warranty associated with the item instance as a result of shipment of the sales order.
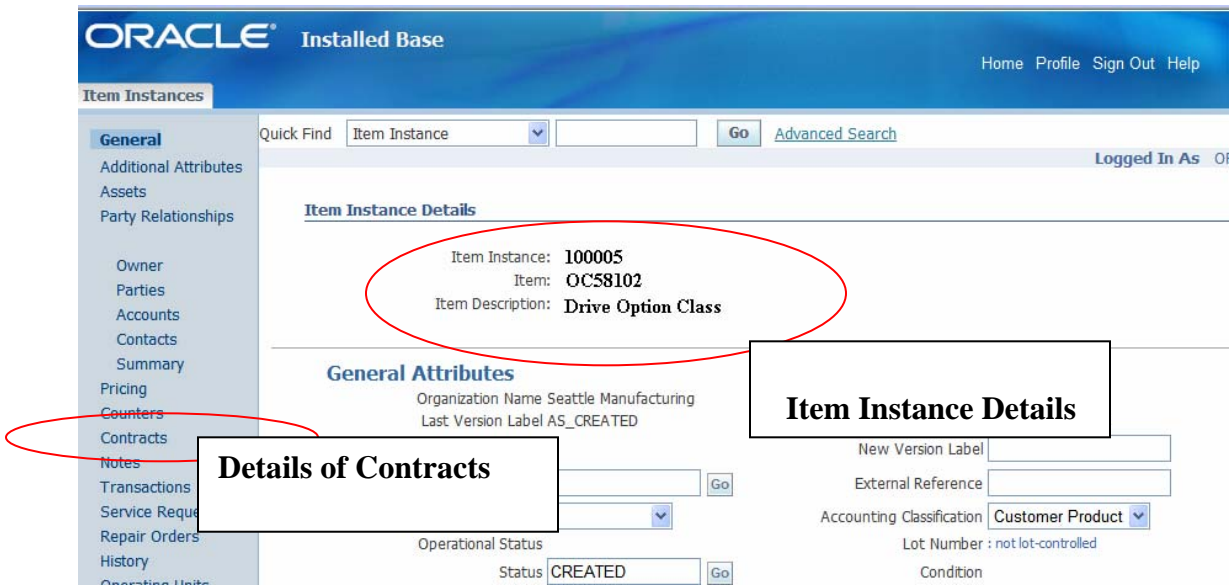
Fig. 5.9

The contracts section displays all contracts applicable to this item instance.
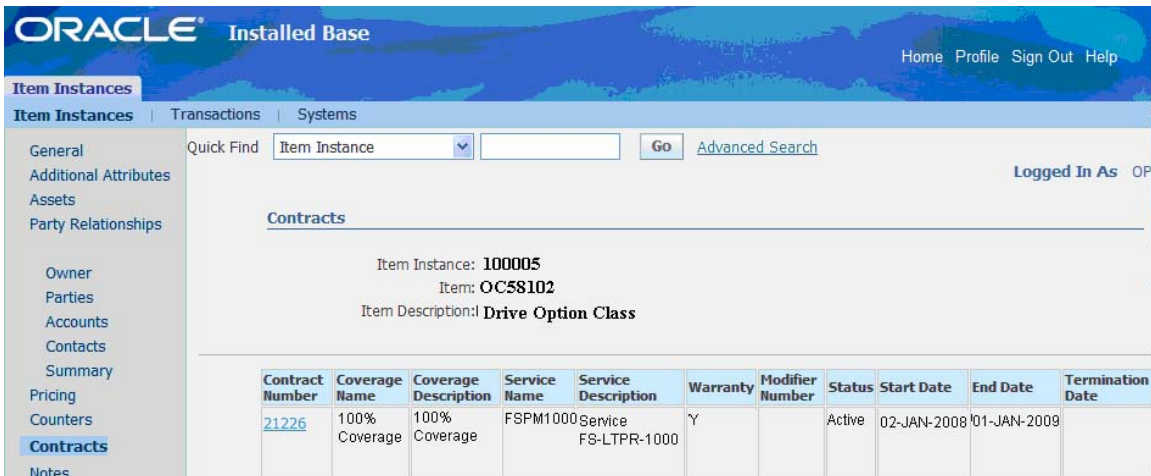
Fig. 5.10

5.3.4 Integration with Oracle Teleservice

When a Service Request is being created for an item instance to which the warranty is attached, the warranty is visible in the 'Contracts' section of the Create Service Request screen. So, at the time of creation of a Service Request, a service agent gets to know what contracts are applicable for the customer. This facilitates the interaction of the service agent with the customer.
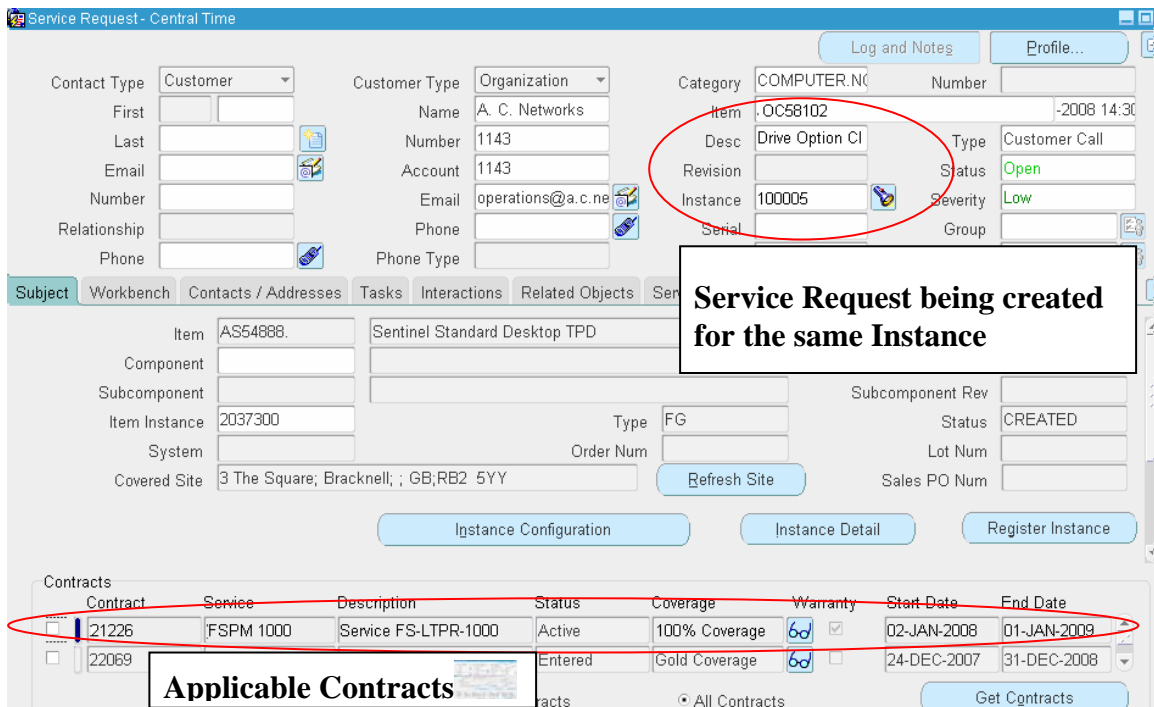

Fig. 5.11

6. Extended Warranties

Extended Warranty is an explicit contract between a customer and the selling organization by which the selling organization covers the product sold to the customer for planned / unplanned maintenance after the lapse of the warranty period of the product sold. An extended warranty can also be purchased for extended services during the Warranty period. Unlike a Warranty, a customer pays separately for an extended warranty of the product.

6.1 Overview

The process of selling an extended warranty to a customer can involve two scenarios.

Scenario I – Immediate Service The first scenario is that of an immediate service. Here the customer decides to go for the purchase of an extended warranty at the time of buying the product itself. There are many companies which provide discounts on extended warranties if the extended warranty is purchased at the time of buying the product itself. So this leads many customers to purchase the extended warranty, which will be applicable after the lapse of the Warranty period, at the time of purchase of the product.

This is a case where the extended warranty will be sold to the customer through the same sales order through which the product is sold.

Scenario II – Delayed Service The second scenario is that of a delayed service. Here the customer decides to go for the purchase of an extended warranty later, after the product has been purchased. From the customer's point of view, the customer might be willing to see the quality of services provided by the company during the Warranty period before actually going for an extended warranty. There are many companies which give a call to the customer just before the Warranty of the purchased product is about to expire, informing him of the extended warranty schemes and then the customer might decide to go for the purchase of the extended warranty.

This is a case where the extended warranty will be sold on a product that is already there in the customer's installed base. Here the extended warranty will be sold through a new sales order that will bear a reference to either the original sales order number through which the product was sold to the customer or the item instance number / serial number of the installed product. This reference to the original sales order number or the item instance number / serial number is necessary for the extended warranty to be linked to the desired item instance in the installed base.

The following is a pictorial representation of the various tasks, in sequence, involved in the implementation of extended warranties:
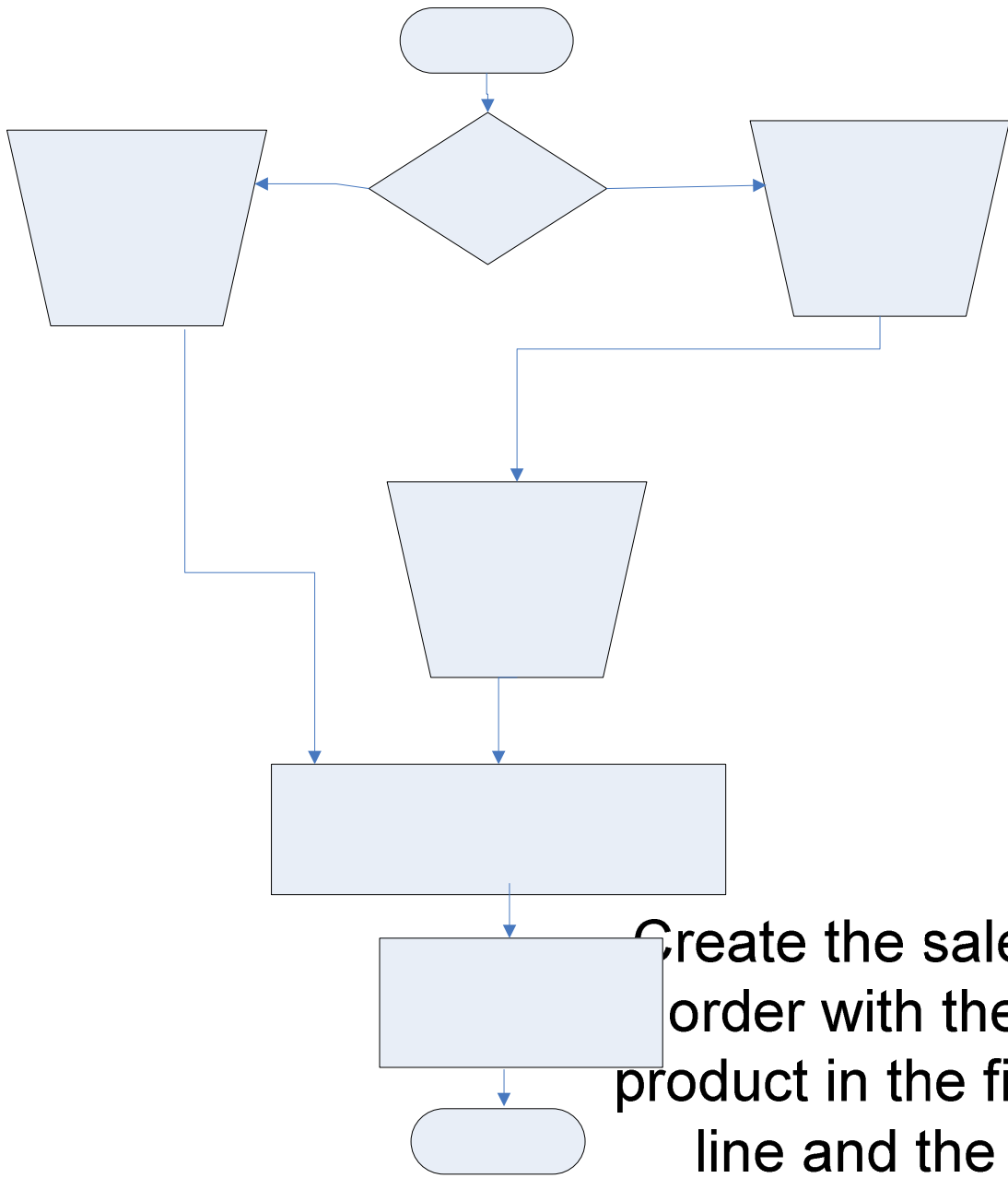
Fig. 6.1

Create the sales order with the product in the first line and the service item in the second line. Book, Pick and Ship the Order

Tl

6.2 Module Integrations for Extended Warranties

The following is a summary of how various Oracle Modules are integrated for implementation of Extended Warranties:

Oracle Modules	**Actions**				Concurrent Programs
	Creation & Pricing of Extended Warranty Item	**Creation & Shipment of Sales Order**	**Creation of Extended Warranty**	**Creation of Invoice for Extended Warranty**	
Oracle Inventory	✓				
Oracle Pricing	✓				
Oracle Order Management		✓			
Oracle Service Contracts			✓		1. Service Contracts Order Capture Integration
Oracle Installed Base			✓		
Oracle Teleservice			✓		
Oracle Accounts Receivables				✓	1.Service Contracts Main Billing Program 2. Auto-Invoice Master Program

Fig. 6.2

As seen above, shipment of a product creates an item instance in Installed Base. If an extended warranty item is included in another line of the same sales order, or an extended warranty item is booked in a different sales order that references the original sales order / item instance, the extended warranty gets attached to the item in Installed Base.

6.3 Implementation Aspects

6.3.1 Creation of Extended Warranty Items

The process of setting up an Extended warranty item is similar to the process of creation of a Warranty item (Refer to Section 5.3.1 Creation of Warranty Items). The only difference is in the Coverage Template. A Coverage Template for Warranty needs to have the Warranty check box enabled (Refer to Section 4 Business Process), while a coverage template for Extended Warranty Items should not have it enabled.

6.3.2 Pricing the Extended Warranty

Extended Warranty Items can be included in a price list in exactly the same way as other inventory items. At the time of creation of Sales Order the price of the extended warranty item at the sales order line populates from the pricelist specified at the Sales Order header.
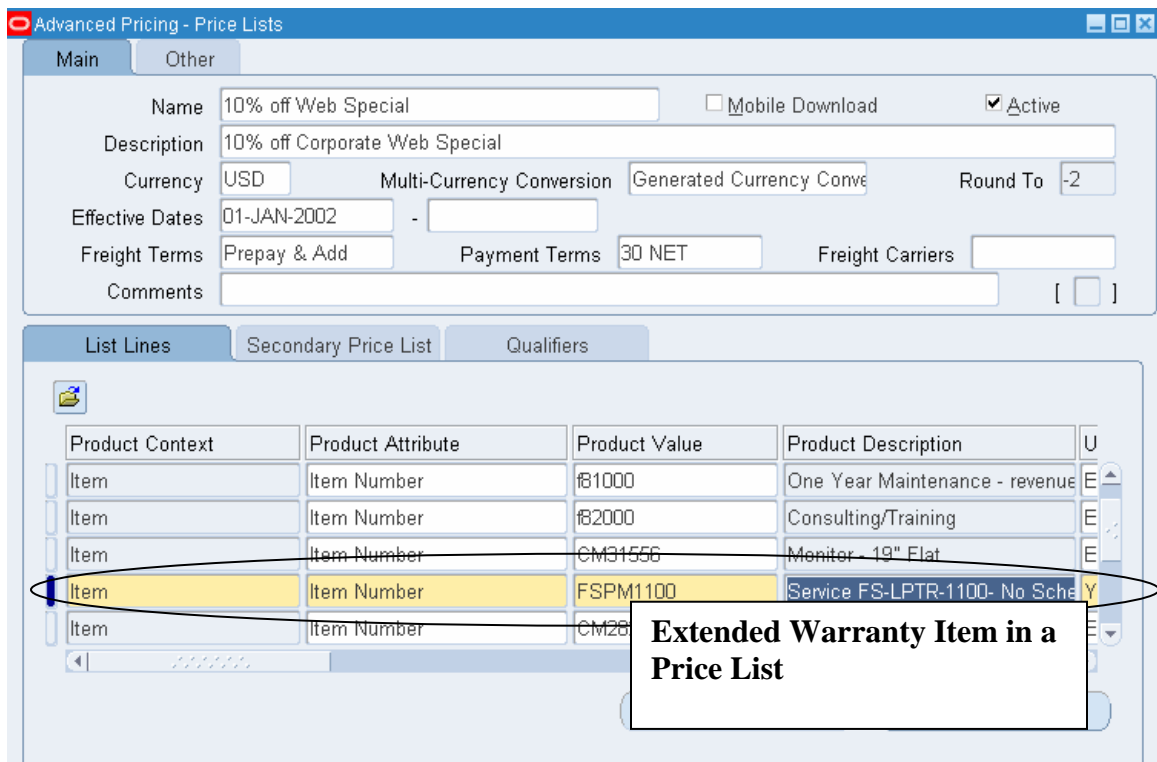

Fig. 6.3

6.3.3 Scenario 1: Sales Order for Immediate Purchase of Extended Warranty

Immediate purchase refers to the purchase of an extended warranty at the time of purchase of the product. So, an extended warranty is sold to the customer through the same sales order through which the product is sold. The product and the extended warranty item are entered in different lines of the same sales order.
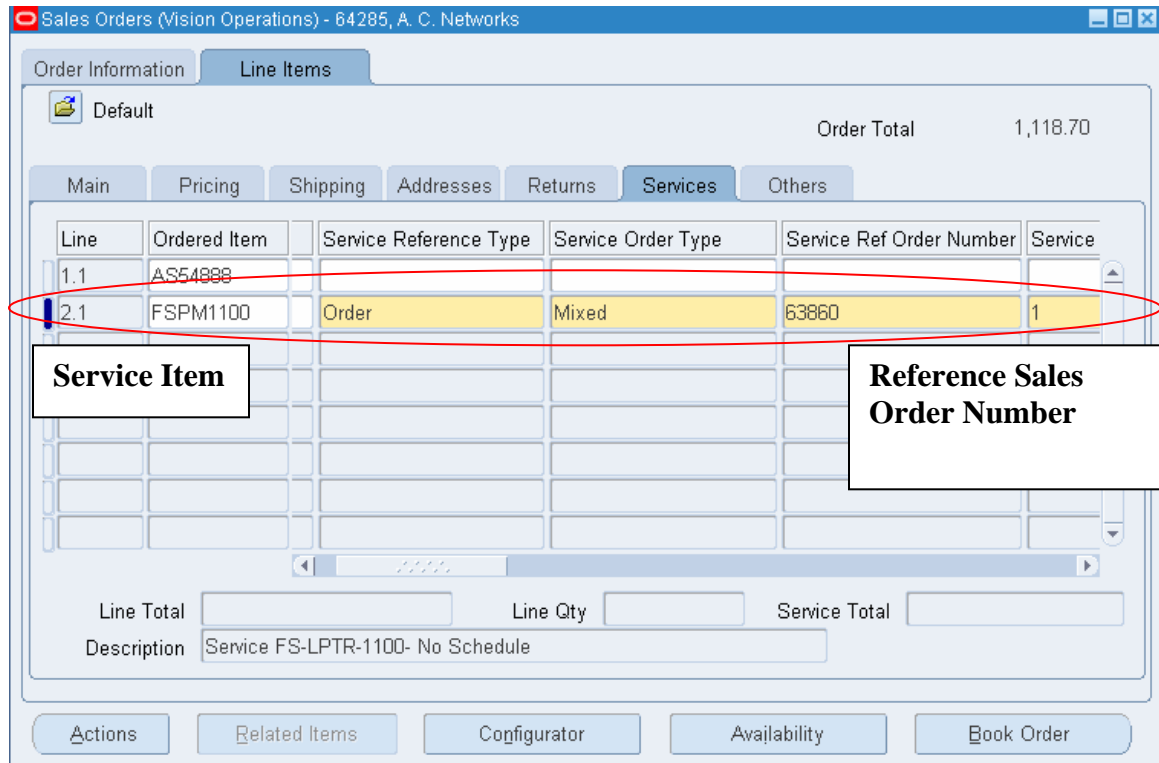

Fig. 6.4

When a Service Item is entered at a sales order line, the system prompts for a service reference type, which can be either an Order or a Customer product. In the case of an immediate purchase of an extended warranty the service reference type is generally entered as Order and the same order number is entered in the Service Ref Order Number field. This in effect means that the service item at the order line references the same order through which it is being booked and will be applicable to the item in the sales order line specified in the Service Ref Line Number field.

When the product line in the Sales order is shipped and the Order is closed, the extended warranty gets applied to the product. This extended warranty can be checked in Oracle Installed Base against the item instance created as a result of shipment of the sales order.

6.3.4 Scenario 2: Sales Order for Delayed Purchase of Extended Warranty

Delayed Purchase refers to the purchase of the extended warranty at a later point of time after purchase of the item. This typically is the case where the customer decides to go for a purchase

of an extended warranty towards the expiry of the Warranty period. At this point of time the customer will ideally have with him the original sales order number through which the item was sold. The item instance number installed at the customer's site will also be available in Installed Base. So, while creating an order for the extended warranty, it is essential to refer to either the original sales order number and the sales order line number, or, the customer's item instance number.

Referring to an old sales order is identical to what has been demonstrated in section 6.3.3 Scenario 1: Immediate Purchase of Extended Warranty.

For referring an item instance, the Service Reference Type needs to be 'Customer Product'. In this case the fields Service Order Type and Service Ref Order Number get disabled.
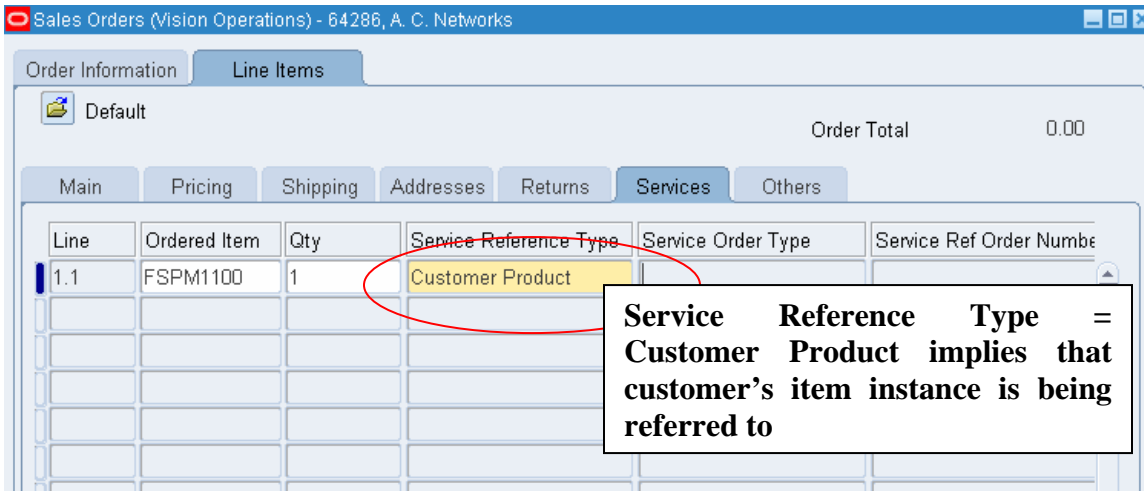

Fig. 6.5

The item instance number of the item installed at customer's site needs to be entered in the Service Ref Cust Product field.
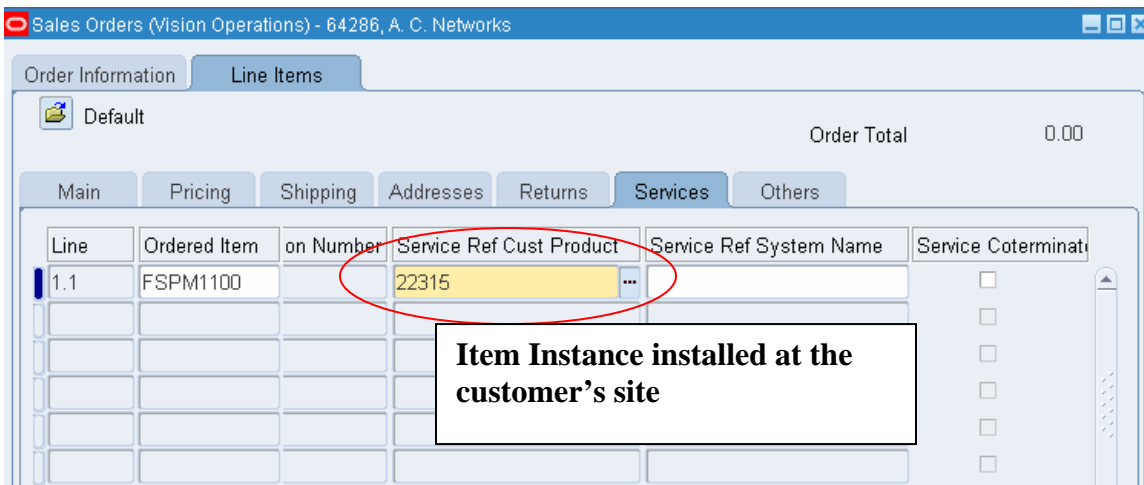

Fig. 6.6

This ensures that the reference being made here is that of an item instance installed at the customer's site.

6.3.5 Concurrent Programs for attaching the extended warranty to the Item Instance

After an order having an extended warranty item at one of the order lines is booked, the following concurrent programs need to be executed. These concurrent programs will attach the extended warranty to the Item Instance in Installed Base.

  i)   Service Contracts Order Capture Integration
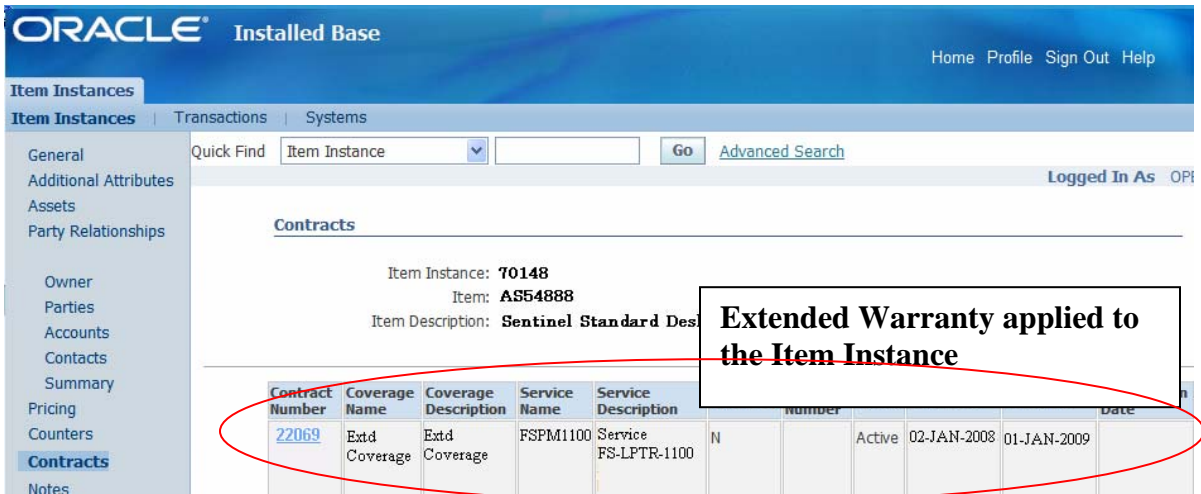 ii)   Workflow background Process

Fig. 6.7

6.3.6 Integration with Oracle Teleservice

When a Service Request is being created for an item instance to which the extended warranty is attached, the extended warranty is visible in the 'Contracts' section of the Create Service Request screen. So, at the time of creation of a Service Request, a service agent gets to know what contracts are applicable for the customer. This facilitates the interaction of the service agent with the customer.
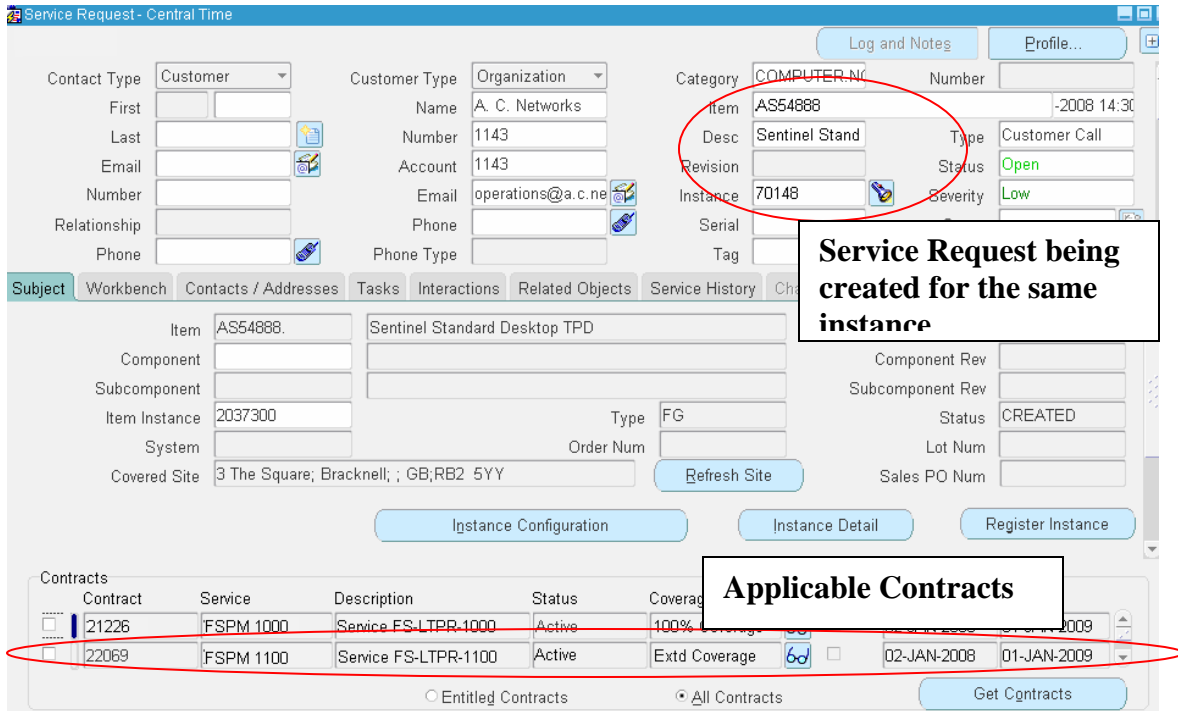
Fig. 6.8

6.3.7 Invoice for Extended Warranty

After an order having an extended warranty item at the order line is booked, the following concurrent programs need to be executed, for the invoice to get generated.

i) Service Contracts Main Billing Program - According to pricing and billing schedule in the contract, running this request generates transactions in the Service Contracts billing tables and the Oracle Receivables interface table.

ii) Auto – Invoice Master Program - Running this request picks records from the Oracle Receivables interface table and process billing.

7. Customized Service Programs

The earlier sections of this paper have explored the creation of service contracts (in the form of extended warranty) and creation of invoices for the service sold through Order Management. Oracle, however also supports manual authoring of service contracts through the Service Contracts Module. The end result of both the routes is the same – creation of a contract, but there are finer differences between the two processes, and in an implementation process, a conscious and informed decision has to be taken on which route to follow.

7.1 Key Questions to Answer

During the decision making process on whether to implement creation of a Contract through Order Management or through Service Contract, answering a couple of basic questions gives a proper direction to the decision making.

- **At what level will the contract apply?**
  - i) Always to a specific product that a customer owns / is in the process of buying
  - ii) At a broader party, site or customer level also

- **How will the customer be billed?**
  - i) Always through one invoice
  - ii) Through a agreed upon billing schedule, with periodic invoices being generated at predefined intervals

If the answer is option (i) for both of the questions above, any of the two routes can be followed for creation of a contract.

But if the answer is option (ii) for any of the questions above, then it becomes necessary to create a contract through Service Contracts.

When a contract is authored manually in the Service Contracts module, Oracle gives an option to select the effectivity level for the contract, which can be at an Item level, a Party level, a Site level or a Customer level. On the other hand when a contract is created through Order Management, there is no option to choose an broader customer, party or site effectivity level and the contract always gets effective to the item that the customer owns (in Oracle Installed Base) or to the item being referred to in the Sales Order for the service.

When a contract is authored manually in Service Contracts module, Oracle gives an option to select a flexible billing schedule. For example, if the total billing amount for a particular contract is $120, then a periodic quarterly billing schedule can be defined in Service Contracts module by which the customer will be can be invoiced quarterly at the rate of $30 every quarter or monthly at the rate of $10 every month. But if a Service Contract is being created through Order Management, this flexible billing schedule is becomes difficult (Some flexibility can however be added by setting up Payment Terms in Oracle Receivables for incremental billing over time) and the customer gets invoiced once at the time of order booking for the full billing amount for the Service.

7.2 Contract Effectivity

When a Service Contract is authored manually, it is created between two Parties. One party is the Vendor Operating Unit, and the other party can either be a customer or a third party. This effectively specifies the parties entering into the contract.
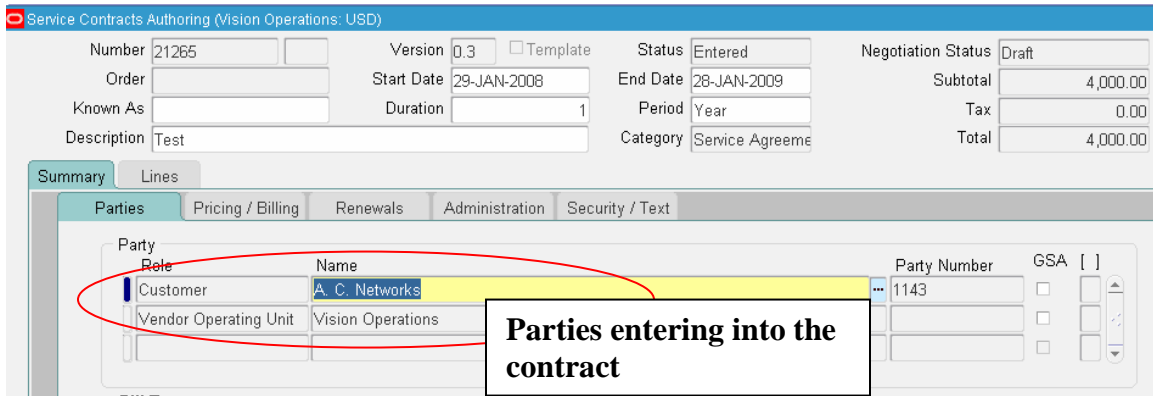
Fig. 7.1

The Service Item at the line level specifies the details of the coverage of the contract and the price of the service is decided from the applicable pricelist. The effectivity of the contract, whether at the Item level, part level, customer level etc is specified at the sub line.
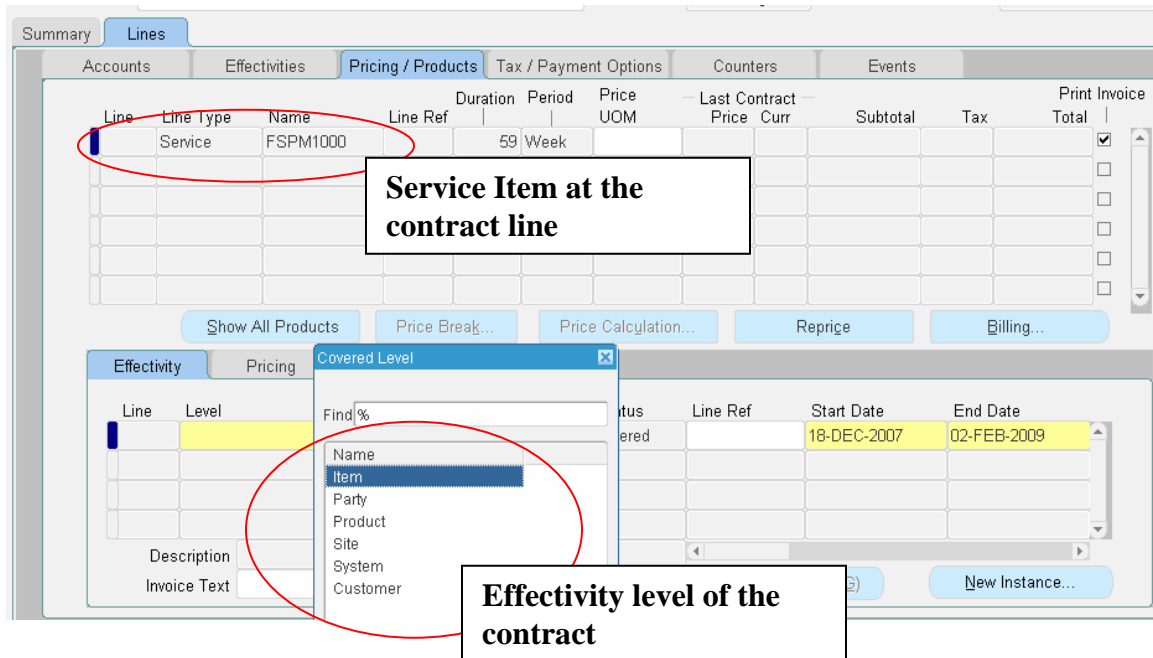

Fig. 7.2

7.3 Billing Schedule

When a Service Contract is authored manually through Service Contracts module, Oracle provides the option of defining flexible billing schedules. The service contract author needs to specify the duration of the contract, the number of periods for which invoices need to be generated and the duration of each period. Oracle divides the total amount equally into all the periods and generates invoice amount for each period along with the invoice date.

Fig. 7.3

8. Conclusion

The objective of this paper has been to focus mainly on the points of integration of Oracle Service Contracts with other Oracle Modules. The emphasis has mainly been that a contracts scenario in any organization cannot be modeled using the just the contracts related modules, Oracle Service Contracts and Oracle Contracts Core. The actual winning combination can be achieved only when all related modules of Oracle come together and form a solution as a coherent whole. The true essence of a ERP / CRM implementation lies in the various business processes operating in tandem to provide a unified view of the organization as a whole. It is correctly said that a truly successful ERP implementation transcends the barriers of modules. While a contract item is created in Inventory Management, the shipment happens in Order Management and the shipment creates an item instance in Installed Base and a contract in Service Contracts, the invoicing happens in Accounts receivables. This is the beauty of a true ERP implementation, the distinct modules coming together and modeling a solution, so complete that the user hardly understands when he switches from one module to another.

9. About the Author

The author is a Functional Consultant with the CRM Practice at Infosys Technologies Ltd. He has a rich implementation experience in CRM and has worked primarily in the CRM Service Domain. He has completed his B. Tech and MBA and is working in the IT industry for almost 4 years now. His main areas of interest are Customer Care, Tele Service, Field Service and Contracts.

10. Acknowledgements

My sincere thanks to Mr. Pradeep V. Krishnamurthy, Consultant – Enterprise Solutions, Infosys Technologies Ltd. for his guidance.

11. References

1. Oracle Service Contracts Implementation Guide
2. Oracle Service Contracts User Guide
3. Oracle Installed Base Implementation Guide
4. Oracle Order Management Implementation Guide