

Optimizing the Field Force: Service Territory Management

By Venkat Pavan

Much of the success of an enterprise, a service provider in particular, depends on customer satisfaction. Field service optimization is one of the ways of ensuring it.

Companies are increasingly targeting Customer Relationship Management (CRM) as the key differentiator to promote their businesses. Better CRM does not necessarily mean more frequent customer contacts. The goal is higher quality, more meaningful engagement, better information, better timing, and above all, a more proactive and responsive company culture.

Factors like alternative business channels, increasing competition, and so on, have resulted in companies vying for the same customers while at the same time customers, inundated with choices, are finding it easier to switch service providers. The financial impact of customer disloyalty can be staggering. A recent study reported that a 5 percent improvement in customer retention could increase profits by as much as 85 percent. Managers everywhere,

therefore, are trying to find innovative ways to enhance customer loyalty, increase revenue, and improve productivity. According to Gartner, “By 2005, 35 percent of North American and 65 percent of European internal service organizations will have implemented a service-based business model. Enterprises are now much more focused on internal cost savings and process efficiency. Managing service requests and delivery tasks with a standardized service catalog is one necessary component to improving service delivery capabilities and efficiencies.”

More and more consumer-driven companies are automating their mobile workforce. Consumer-driven and utilities firms are at the crest of the wave of firms that are running or planning to run field service as a strategic profit center (Figure 1).

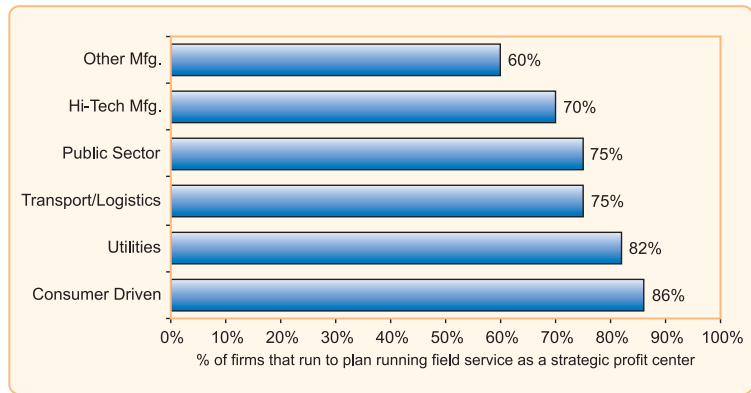


Figure 1: Consumer-Driven Firms Lead Strategic Field Service Push

Source: Aberdeen Group, June 2004

A high level of customer satisfaction is key to the success of a service provider, which depends largely on the speed with which the company responds to its customers' needs. Aberdeen Group in its report, *The Field Service Optimization Benchmark Report*, has found that companies organized around a value system that is focused primarily on customer satisfaction - versus alternatives like operational excellence or product innovation - tend to realize higher customer retention rates and a better first-call resolution success

rate (Figure 2). So, for any customer service-oriented company, its field service should not only be automated but also be optimized for best performance.

Infosys has implemented an Oracle Field Service Module for one of its marquee clients. The client company earns a primary part of its revenue from after-sales service of office equipment. Towards aiding an effective field service management process, a Service Territory Management (STM) architecture was developed that integrated with Oracle FSM.

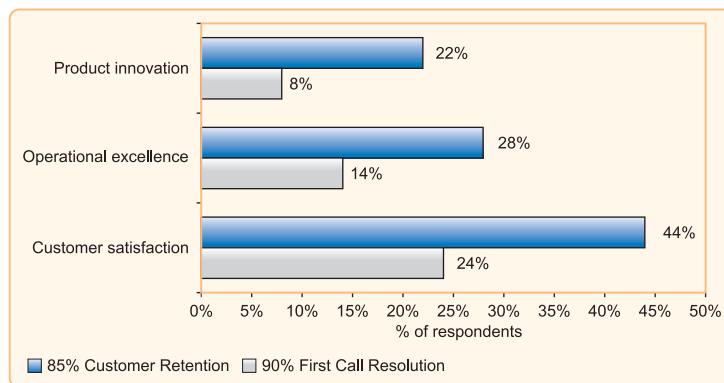


Figure 2: Corporate Philosophy Drives Service Gains

Source: Aberdeen Group, June 2004

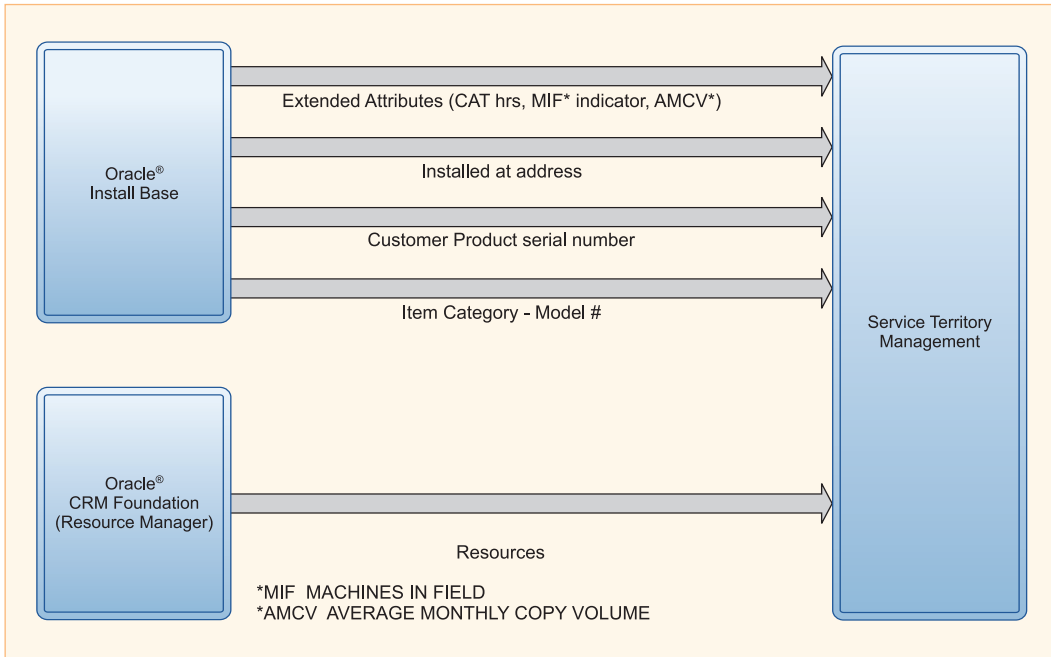


Figure 3: The servicing domain and equipment data is obtained from the Oracle Applications and migrated to the STM application.

Source: Infosys Research

FIELD SERVICE BUSINESS PROCESS

The field service process flow can be explained as follows. The customer places a service call; the dispatcher dispatches a technician to the customer location; the technician then checks the broken machine and sets out to repair it. Several logistic issues need to be taken care of if this process must work effectively.

1. The speed with which the technician is sent to the customer location.
2. Assigning a technician with the right skill set for the job.
3. The technician possessing the correct spare parts that are required to repair the machine on his first visit to the client site (called the first-call effectiveness).

The task becomes more complex if the geographic spread is vast and the equipment in

the service domain is large in number. The STM application is designed to meet these needs. It aggregates equipment information at the model level and assigns technicians to the model rather than assign technicians to each unit of the equipment. This enables faster assignment and helps restocking analysis programs to accurately identify which and how many parts each technician needs to carry. In addition, a provision is available for special cases where the customer desires the same technician to service all his equipment. To perform all these tasks STM analyzes the historical data for all equipment, which generates accurate statistics enabling accurate assigning of technicians.

THE SOLUTION

One way to assign a technician to equipment is to provide a functionality where the technicians and

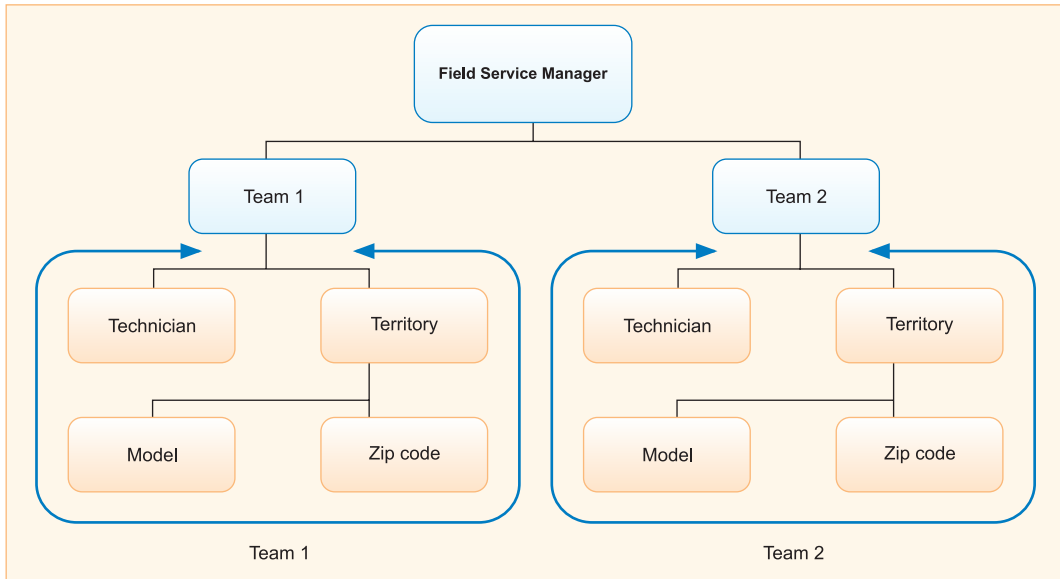


Figure 4: Diagrammatic representation of the territories

Source: Infosys Research

the equipment are listed, and then allow the user to link the equipment with the technician individually. Consider a business where the equipment may be installed at various locations in a country. If the user tries to assign a technician to each one of the equipment manually, productivity will suffer and there is higher scope for human error. To reduce human intervention, the STM architecture defines a territory and assigns a field service manager (FSM) for that territory who has some technicians designated to work under his/her supervision. The FSM can then assign technicians to the models under his/her territory. Data about the servicing domain and the equipment is obtained from the Oracle Applications and migrated to the customized application of STM for processing (Figure 3).

How is a territory defined? The servicing domain of the company is divided into territories based on a combination of geographic areas (zip-codes) and product types (model numbers). Other criteria can also be used to define territories. For example, a set of 'Ship-to' locations or a set of

'Bill-to' locations can also form a territory.

A team is defined as a combination of these territories and technicians. These teams are assigned to the FSM who can make changes to his team as and when the business demands it. The FSM chooses a set of technicians, a set of models, and a set of zip codes and forms his/her team. He/she can have several such teams to maintain territories (Figure 4).

After the teams are created, the FSM must assign the technicians to a model-zip combination. The application not only allows the FSM to assign technicians but also to do it based on the 'work-load' of the technician. The FSM can mix-and-match to distribute the work load uniformly among all the technicians and then save the settings. A dashboard is provided where he/she can assess a technician's workload at a glance.

Even after careful assignment, a technician may be overloaded for a specific territory. The application allows the FSM to override assignments in order to overcome such a

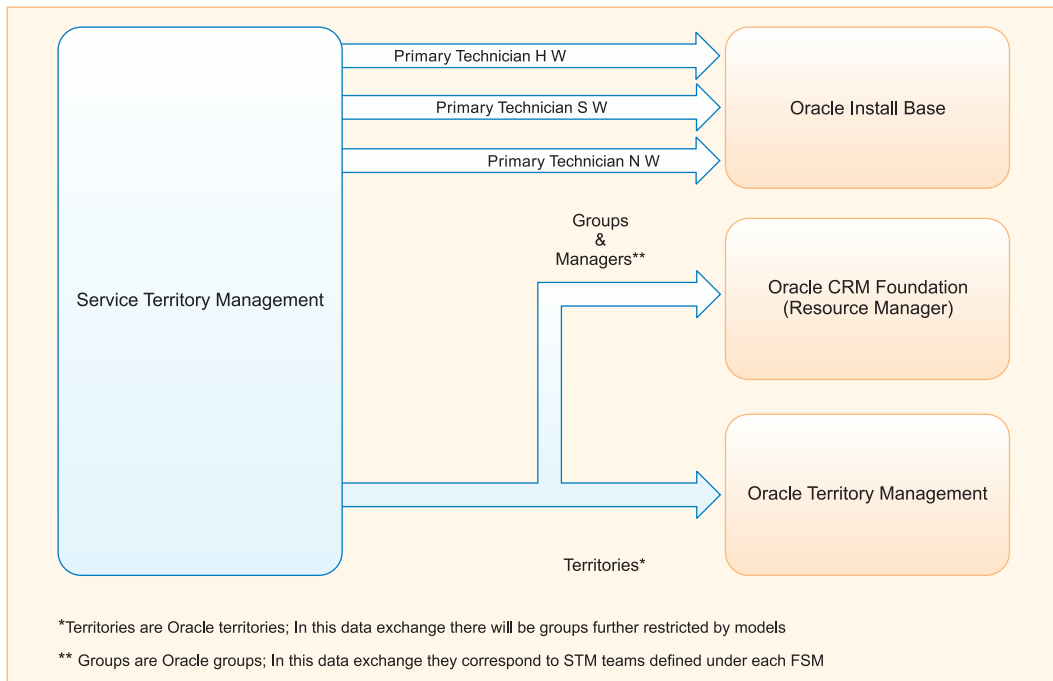


Figure 5: After the FSM makes all the assignments, the data is ported from STM application back to Oracle.

Source: Infosys Research

scenario. It allows the FSM to reassign work to other technicians depending on the distribution of work. The FSM can use preferential overrides to address special cases. If a customer wants only one technician to service all his equipment, then overrides can be used to set up a single technician for that customer. This ensures that whenever that customer places a service call the same technician is dispatched.

The FSM can assign technicians, save the data and make an assignment permanent when an optimal load allocation on each technician has been achieved. When the assignments are made permanent the data percolates to the equipment level. After all the assignments are made the data is ported back to Oracle (Figure 5).

THE STM ADVANTAGE

The STM architecture is designed to address

productivity and accuracy concerns as well as customer satisfaction. Enterprises can leverage STM to increase first-call effectiveness and considerably reduce response time, both of which result in higher customer satisfaction. After all, as Peter F Drucker puts it: "The single most important thing to remember about any enterprise is that there are no results inside its walls. The result of a business is a satisfied customer." The STM architecture reduces the amount of time an FSMs spends on routine activities such as technician-territory balancing and helps them spend more time working with technicians and customers. Specific advantages of the STM include:

- Standardization of the process of assigning technicians.
- Reduces average time a call is left unassigned and increases territory integrity. By increasing territory integrity,

One of Infosys' US-based clients using the Service Territory Management (STM) architecture gets a major part of its revenue from providing after sales services for the equipment sold or leased to their customers. 'First call effectiveness' is a critical success factor. A higher percentage of first call effectiveness is achieved by more accurate decision on the assignment of the technician to the request raised by the customer. Also, because the company has operations spread across the country, the number of calls that are handled is very high (sometimes reaching a peak of 4,500-5,000 calls per day). The company gives its technicians a pager to which the service call details are paged. The STM has significantly helped the company to achieve the desired results (Table 1).

| Metrics | Before STM implementation | After STM implementation | Percentage improvement |
|--|---------------------------|--------------------------|------------------------|
| Response Time Average | 5.71 | 3.71 | 35.0 |
| Average Daily CAT* per Tech | 6.5 | 7.3 | 11.9 |
| Resource Utility | 81.4% | 91.1% | 11.9 |
| Calls requiring manual intervention | 22.3 | 4.1 | 81.6 |
| Task assignment & time taken to page the tech. | 28 | 7.5 | 73.2 |
| Tech to Call center agent ratio | 18 | 28 | 55.6 |

* CAT- Customer and Travel hours

Table 1: Comparison of statistics before and after STM implementation

Source: Infosys Research

STM will enhance the ability of restocking analysis programs to accurately identify which and how many parts each technician needs to carry.

- Allows for faster movement of technicians between locations.
- Workload statistics for territory assignment evaluation is made easier.

CONCLUSION

As the market becomes more and more consumer-driven, a service providing company needs to have an optimized field service automation that can give it a clear edge over its competitors. The Service Territory Management architecture developed by Infosys blends business strategies and technologies with the practicalities of day-to-day operations. This architecture can be implemented for any company in the servicing domain after careful

by analyzing the business processes involved.

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