



Optimum Solutions

empowering business with technology



VIEW POINT:

Overview - Application Management Services

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1. Introduction

In order to achieve high operational efficiencies and effectiveness and to create a high level of user satisfaction, IT organizations need to have a sound approach towards managing their business applications.

All companies, today, require good business applications to support and enhance their business processes and strategic differentiators. Given the rapid pace of changes, business applications have to grow and evolve on a continuous basis. Companies need applications to change rapidly to support their growth and changes in business directions.

Application Management Services (AMS) is about holistic management of applications across their life-cycle – starting from conceptualization to development to deployment and maintenance and support.

This view point document provides an overview of Application Management Services and the key elements of the delivery model. It highlights the important



alternatives that are available to companies trying to leverage AMS delivery services for their internal growth and efficiency improvement. This document also highlights the critical challenges of an offshore based delivery model and suggests ways to manage such services.

2. Overview of Services

2.1 Nature of services

Application Management services are holistic in nature and are not just focused on one element of the service. The service encompasses all life cycle stages of the application covering application development, maintenance, monitoring & support, as follows:

- Application Development
 - Requirement Analysis
 - Design & Development
 - Testing
 - Rollout
- Application Maintenance & Enhancement
 - Corrective maintenance
 - Preventive maintenance
 - Development of new features required by the users
 - Application fine-tuning to enhance user productivity and effectiveness
 - Migration of application to new technologies / platforms
- Quality Control
 - On-going functional testing
 - Regression Testing
- Application Monitoring & end-user support:
 - Monitoring of application performance & logs
 - User training
 - Level 1 / Level 2 support

2.2 Service Delivery Model



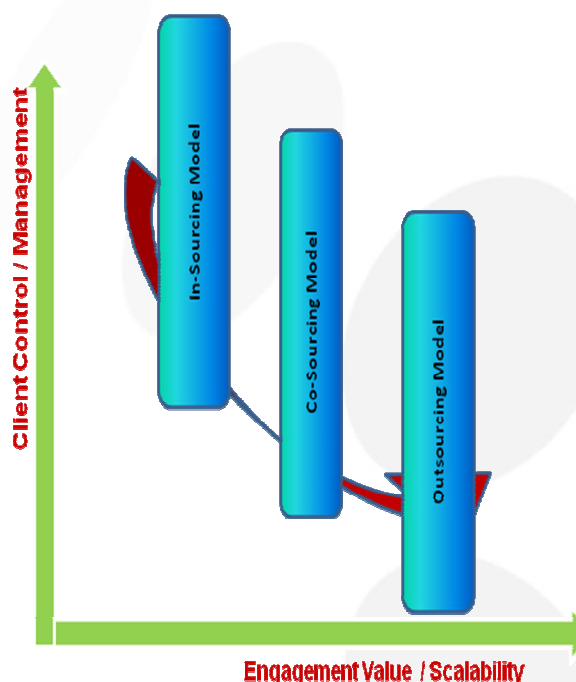
The service delivery model depends to a large extent on the level of control & oversight that customers want to exercise on the service delivery team. This need for control depends on the nature of engagement, life-cycle of the application and customer goals.

For engagements that are strategic in nature and require high level of proprietary information or knowledge, customers should retain a high level of control and oversight. However, as the engagements become more routine and involve relatively less strategic initiatives, customers can reduce their control and let their IT partners manage the service delivery.

Similarly, in the initial stages of application implementation, there is a need to closely monitor the implementation and interact extensively with the business users. At this stage of the life-cycle, the application can change rapidly and significantly. In such a situation, the customer IT management team needs to maintain stronger control and oversight. As the application gets into more stable phase, the oversight can be reduced.

There are three major types of service delivery models:

- **In-Sourcing model:** In this model, customer controls the project while using partner's consultants for specific services. These services could span the full range of the engagement – starting from requirement analysis to maintenance. Usually, in an in-sourcing model, the customer's requirement is only for skilled resources and clients can work with multiple vendor partners to meet their skill requirements.
- **Co-Sourcing model:** Co-Sourcing model is a middle of the road option between consulting and outsourcing services. Co-sourcing model means that the customer and the delivery partner both maintain a detailed oversight on the engagement. The customer team is responsible for engagement planning and user coordination, while the vendor team is responsible for deliverables and resource planning.
- **Outsourcing model:** In this model, the customer gives a large level of control to the service delivery partner. The engagement is managed through a set of service level agreements that are designed to ensure that the services are delivered as per the expectations of the customer. Usually, outsourcing will be a “black-box” operation with weekly reports and monthly / quarterly performance summary meetings. The advantage of this model is that the costs are the lowest and is more scalable. Customers will usually have one or two outsourcing vendor partners.



The advantages / disadvantages of the above model can be summarized as follows:



	In-Sourcing	Co-Sourcing	Out-Sourcing
Scalability	Not very scalable, particularly if the resources are required onsite	Scalable model by using a combination of offshore and onsite and customer resources	Highly scalable model by using a combination of offshore and onsite resources
Costs	Very expensive, particularly on long duration engagement	Moderate costs	Low costs
Suitable for	New application development	Both development and maintenance	Both development and maintenance

2.3 Delivery Location

In all the above models, application management services can be delivered from either offshore location or onsite at customers' premises or a combination of the two. The location for service delivery is not directly tied to the delivery model, even though intuitively most assume that in-sourcing is carried out onsite while outsourcing services are delivered offshore. However, it is quite possible that in-sourcing services be provided largely offshore (or offsite) and sometimes outsourcing engagements can be done fully onsite on customer's premises.

We believe that Application Management services are most effectively delivered by using a combination of local and offshore consultants. The consultants, who need to directly interact with customer's IT management or business users, need to operate locally or travel extensively to customer's offices. Other project team members who do not need to interact directly with customers can operate from the offshore development center.

Important benefits of using offshore location for services are:

- Greater availability of skilled resources
- More flexibility in resource planning (variable capacity)
- Lower resource costs
- Feasible to deliver services over extended hours (16x5 or 24x5 or 24x7)

The mix of offshore and onsite resources depends on the nature of application, life cycle stage, the technology used and other logistics involved.

Optimum Solutions uses Singapore as its delivery center. While the resource costs in Singapore are somewhat higher than traditional offshore centers like India, Singapore offers several other benefits to prospective customers. These benefits include higher employee stability, excellent infrastructure and very low communication costs – which help us control our overhead expenses. Further, the infrastructure allows consultants to easily support US customers during the off-hours from remote locations.

2.4 Team Size and Structure



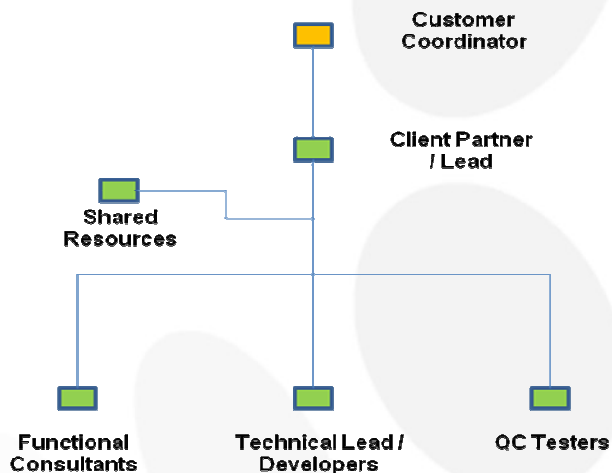
It is important that adequate attention be paid to sizing of an application management engagement. The team size depends on several factors, some of which are the following:

- Lifecycle stage of the application – whether it is in development or is just being rolled out or is quite stable under maintenance
- Technical architecture – different layers of technology will require different people to provide effective support.
- Functional modules
- Support coverage – whether the support is for 8x5 or is 24x5 or 24x7
- SLA requirement
- Extent of client coordination required

All the above factors will help us decide the optimum team size required to support an application management engagement.

An application management will usually have the following roles:

- Client Lead / Project Manager
 - Day-to-day client coordination / project management
 - Project governance
 - SLA reporting
- Business Analyst / Functional Consultants
 - Managing the functional requirements / specifications
 - Coordination for acceptance testing
- Technical Architect
 - Maintain application design
 - Programming standards and guidelines
- Developers
 - Coding and unit testing
- QC Testers
 - Functional testing
 - Regression testing
- Shared Resources
 - System Administration
 - Configuration / Release management





2.5 Processes

Application management services require expert skills and rigorous discipline. Few customers fully grasp the complexity involved in setting up an application management service. If the complexities are not fully understood, there is a good chance that the engagement will not lead to the expected benefits.

In order to ensure high quality and low risks of service delivery throughout the application management engagement, the following processes need to be defined effectively for each and every customer:

- Resource management processes
- Transition processes
- Operational processes
- Governance processes

2.5.1 Resource management processes

Assigning right people to an engagement is, in our opinion, the single most important success factor for the engagement. While other factors are important, they cannot succeed without the “right” people. Many companies have the tendency to compromise on the quality, experience or soft-skills of the people – but that is always a short-term approach that leads to problems eventually.

Customers should always look for the following while evaluating service providers:

- Vendor’s policies and best practices on resource management
- Ability of vendors to attract good talent
- Ability of vendors to retain good talent (*Note: some companies may be able to attract good talent, but are not able to retain them. Therefore, these two factors should be seen independently*)
- Skill development / training / knowledge management policies and processes. This is particularly important for long term engagements
- Flexibility in resource planning which allows the team to scale up or scale down in line with the customer requirements

2.5.2 Knowledge transition processes

Knowledge transition is vitally important whether it is during the early stage of application development or during the later stage of application deployment / maintenance. Companies and their service providers should budget sufficient time for knowledge transition and gradual ramp-up of service delivery. It is seldom possible to have a team that is up and running right from the beginning.

In a geographically distributed team, knowledge transition should also involve at least a few important members of the team to visit the other location for better knowledge transition. Usually, the vendor’s team leads and project managers will travel to the customer’s site for knowledge transition. Sometimes, it may



also be useful to have customer's representative travel to the delivery center for knowledge transition. The decision should be based on the size of team and the level of knowledge transition required.

It is not advisable to conduct the knowledge transition session solely over web conferences.

The transition phase will cover the following activities:

- Familiarize the team members with the application functionality (business requirements)
- Detailed training on technical architecture and technical components
- Ensure that all application documentation is complete and is available to the AMS team
- Align technical processes such as technical standards, coding guidelines, configuration management, test procedures, etc
- Finalize governance processes like collaboration processes, service level agreements, reporting requirement, escalation processes, etc.

Transition Approach





2.5.3 Operational processes

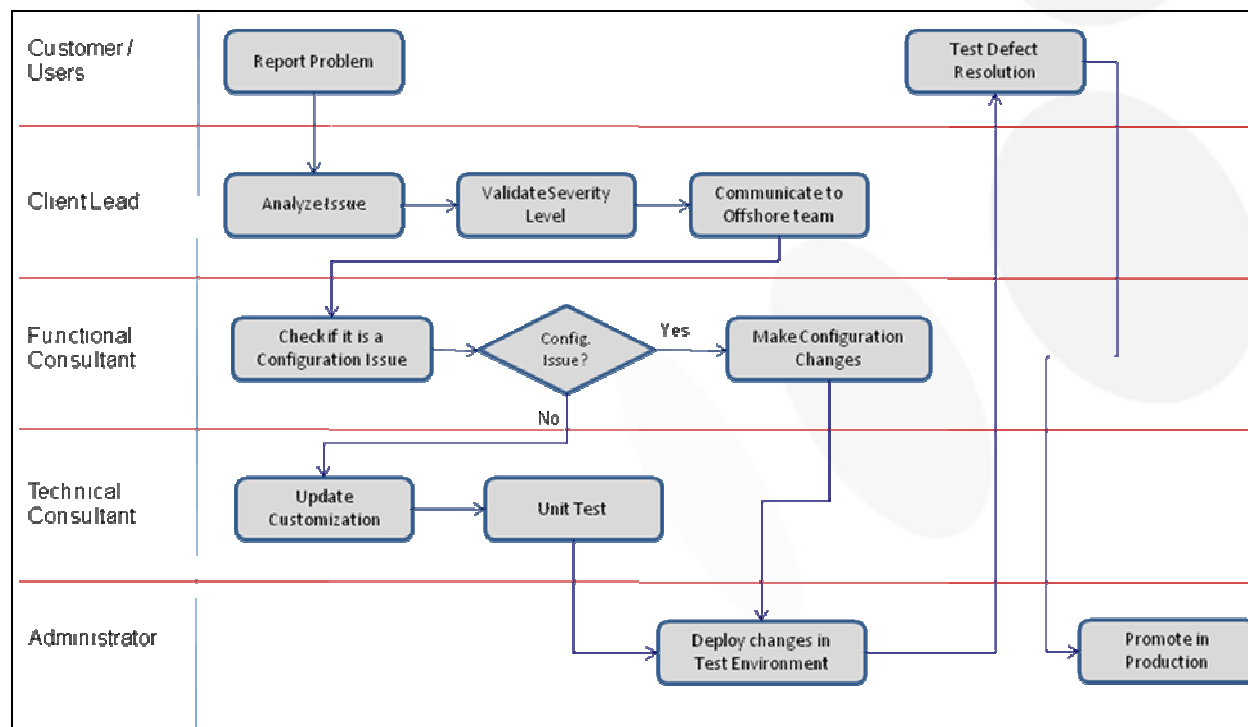
Structured, but flexible, processes are required to ensure collaborative and transparent working between the service delivery teams and the customer. Different customers will have different processes based on their specific requirements, however the core elements of the application management processes are relatively standard.

Processes need to be defined for various areas, the important ones being:

- Application development (various phases)
- Application enhancement
- Defect resolution
- User support
- Testing
- Release management

Usually, customer will have their own standard processes which the vendor team will use to deliver their services. However, vendors should be able to supplement their customer's processes wherever there are gaps.

The following is a sample process for defect resolution:





In order to be effective, the processes should be documented and followed on a consistent basis.

It is important to understand that the processes are required to help effective delivery of services. Processes should not become and end by themselves. Therefore, in any engagement, processes tend to evolve and improve to ensure that the service delivery continues to become more efficient and effective.

To support the above processes, companies / vendors should use collaborative tools and comprehensive reporting. This helps maintain clear communication and understanding with all stakeholders of the engagement. The following specific tools / platforms (web-based) should be used in application management engagements:

- Knowledge management systems
- Issue management systems
- Reporting dashboards
- Project management system
- Resource management / time tracking systems

2.5.4 Governance processes

Governance processes describe how the service will be managed and how the service delivery team will communicate and coordinate with the customer's team. Specific governance areas include:

- Definition of roles and responsibilities
- Resource planning
- Performance Measurement and reporting
- Status reporting
- Process monitoring and improvement

2.6 Service Level Agreement

Service level agreement (SLA) is a contract between the IT services provider and a customer that specifies the services and key performance metrics that the vendor will deliver. They are usually defined in the beginning of the engagement and are used to measure the effectiveness of service provider's performance.

SLAs for application management services are usually focused on response times (to application defects) and defect resolution times. The response times and resolution times requirement will vary based on the severity of the application defect and the nature of the application and will vary from engagement to engagement.

A typical service level requirement can be as follows (please note, that the service levels will vary from application to application and as they become more stringent, the costs goes up):



	Severity 1 (Emergency)	Severity 2 (Critical)	Severity 3 (Non-Critical)	Severity 4 (Minor)
Definition	Complete loss of production activity for all users. No workaround is possible.	User activity is significantly impaired / impacted, but is not stopped completely. Workaround solutions exist.	Does not impact the functionality of the application, but application usage is not comfortable	Minor defects that do not have any impact on the functioning of the application.
Initial Response	30 mins	4 Hours	3 days	5 days
Status update	Every 1 hour	Daily	Weekly	Weekly
Resolution	4 hours	5 days	Depending on capacity	Depending on capacity
Resolution Type	Hot fix or Workaround	Hot fix or workaround	Maintenance release	Maintenance release

3. About Optimum Solutions

Optimum Solutions is a rapidly growing **IT Services** company offering a wide range of technology services for business organizations. Our IT services are focused around Application Management services, Information Management services and Infrastructure Management services.

We have a track record of more than 10 years of meeting and exceeding customer expectations. Starting in 1997, we have grown to over 900 full time employees across US, Singapore and India. We support several customers in Banking & Financials, Manufacturing, Retail & Distribution, Technology and Services sectors.

We offer the following benefits to our customer partners:

- **Robust technical solution:** We are a deeply technology-focused company with strong skills and experience in our specific focused set of technologies and platforms
- **Cost-effective services:** With the help of our Singapore based operations, we can provide cost-effective and highly productive services.
- **Reliable services (through Singapore operations):** Singapore's strength in infrastructure, stable resource base, helps us provide highly productive and reliable services to our customers.
- **Right-sized organization:** We are a right-sized organization for small and medium sized engagements.