
Keane White Paper

Mission Critical Application Management

Priority Candidate for Offshore
Outsourcing

EXECUTIVE SUMMARY

This white paper is part of series of informational papers developed by Keane to share knowledge on specific outsourcing issues of importance in today's business environment. This paper covers the topic of Mission-Critical Application Management and is the second in the series. Additional topics planned for this series include the following:

- » Offshore IT Outsourcing (published 02/2003)
 - » Process and Metrics Management
 - » ERP Management
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Abstract

This informational paper, the second in a series, explores the use of offshore Information Technology (IT) outsourcing for the ongoing management of mission-critical application systems. This paper will first review the general characteristics of mission-critical application systems and will then discuss why these characteristics lend themselves to gaining optimal advantage by outsourcing to an offshore environment.

This paper builds on the discussion generated in the first paper in this series, Offshore IT Outsourcing: An Integral Component of High- Performance IT Organizations, which offers a high-level overview of the offshore value proposition and criteria for selecting a vendor. By focusing on mission-critical applications, this paper addresses an industry trend that is changing the way organizations look at, and benefit from, offshore outsourcing.

The remaining sections of this paper will concentrate on the steps necessary for an organization to consider taking their missioncritical application systems to an offshore maintenance environment, the significant benefits that can be realized by that action, and the important partner characteristics to consider before making such a move. Although it is always mportant to select the right partner for IT offshore outsourcing, it is critical to select an offshore outsourcing partner with heritage and experience in application maintenance activity.

Mission-Critical Application Systems

Most mid-sized to large companies have a number of application systems that are core to critical company functions such as finance, operations, marketing, human resources, and sales. These applications are generally first- or second-generation systems that have been developed and enhanced over a number of years. This evolutionary creep has resulted in the identification of a set of common characteristics for most mission-critical application systems:

- » Mature
- » Custom-developed
- » Includes mainframe, mid-range, client server, and even eBusiness applications
- » Maintenance of these systems account for a significant portion of the IT budget
- » Backlog of pending/desired changes to these systems due to low priority and difficult ROI justification
- » In-depth knowledge generally resides with a limited number of employees, high dependency on system gurus
- » Generally not well-documented
- » Often considered less desirable assignments for internal employees
- » End-user satisfaction with support is generally low
- » Difficult to justify replacement costs to newer generation applications
- » Company mergers and acquisitions may have resulted in duplicate systems or overlap of system functions

Maintenance of these types of systems requires a significant percentage of an organization's IT budget, and since they are required to run the business, quality is of the utmost importance. Defects, outages, and other productivity drains can have a drastic negative impact.

Over the years during which these customdeveloped applications have been keeping businesses running, hundreds of changes have been made to further customize or respond to changing needs and technology advances. These changes, often achieved through patches to code, require updates to corresponding documentation to reduce the existing dependency on system gurus. But these updates are often a missed step in the fastpaced pressures of the internal IT environment. As a result, troubleshooting these systems places increased dependency on the few key personnel who understand the intricacies of the applications.

More often than not, patches are applied to code that provide a temporary fix to a problem without any real understanding of the root cause of the issue. This continuous cycle of patches to code exacerbates the complexity of the application and contributes to frustration and dissatisfaction for the end users of the application system. Internal IT organizations recognize the need to improve this situation, but are concerned about the pain and expense required to perform the appropriate root cause analysis assessment, correction, and corresponding documentation updates.

Organizations have traditionally kept maintenance work on-site or close to home in an effort to ensure control and accountability over these critical systems. The interesting paradox is that, historically, many companies have considered outsourcing part or all of new application system projects, but are not aware of

the greater, recurring benefits to be gained by using offshore IT outsourcing for mission-critical application management.

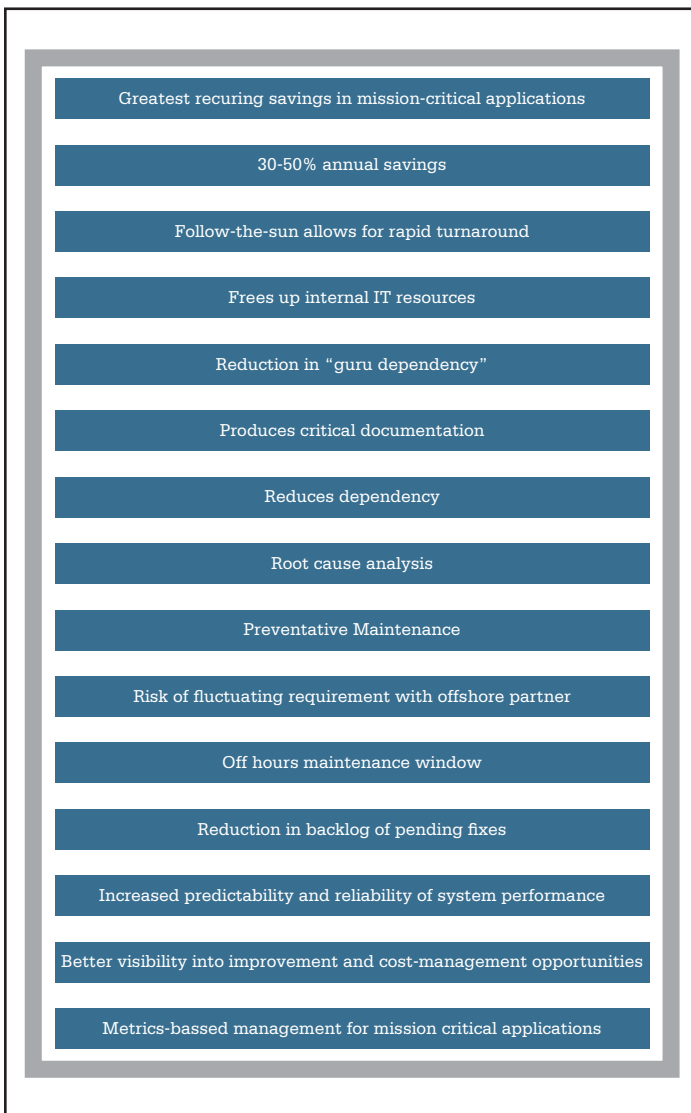
However, that trend is changing – and gaining momentum. Not only are the financial advantages of offshore outsourcing enticing, but now industry leaders across sectors are increasingly aware of the benefits to be achieved and the growing body of evidence that offshore solutions can be effective and low risk even for the most critical applications.

Benefits of Mission-Critical Application Management in the Offshore Environment

Before specifically considering the context of offshore delivery for mission-critical applications, it is valuable to consider the simultaneous benefits to be gained by outsourcing application management in general to an offshore environment:

- » Recurring 30-50% annual savings compared to pure on-site support costs; level of savings depends upon the ratio of on-site/offshore personnel
- » Level 2 and 3 production support deal for offshore IT outsourcing; follow-the-sun allows for more rapid turnaround on issues
- » Frees up internal IT employees for reassignment to other projects, if required
- » Assessment and knowledge transition phase produces critical documentation
- » Reduces dependency on system gurus by improving documentation, cross-training, and spreading knowledge base to offshore partner
- » Improves quality through root cause analysis and preventative maintenance

Figure 1: Benefits of Offshore Outsourcing For Mission-Critical Applications Management



- » Improves end-user satisfaction by consistently meeting service level requirements and reducing backlog of outstanding issues
- » Places risk of fluctuating workforce requirements with offshore partner, dependent upon maintenance and enhancement requirements
- » Off-hours maintenance windows are prime time for an offshore partner, allowing maximum support capability for upgrades and change requirements with minimal impact on end users

Historically, many companies have considered outsourcing part or all of a new application system projects, but are not aware of the greater, recurring benefits to be gained by using offshore IT outsourcing for mission-critical application management.

Beyond the general benefits for application management in the offshore environment, offshore IT outsourcing of mission-critical applications provides some very specific and compelling advantages:

- » Mission-critical application management generally constitutes the largest percentage of the IT budget, therefore the potential recurring savings are the greatest for offshore outsourcing of these systems
- » Mission-critical application systems generally have the highest user population within a firm, therefore, outsourcing to an environment where there is a high level of software process maturity will provide focus and attention on critical support issues that impact this high internal user population. Resulting benefits include the elimination of missing or misleading

documentation, reduction in “guru dependency”, reduction in the backlog of pending fixes, improved efficiency of run times (thus improving asset utilization), and improved productivity for users based upon increased predictability and reliability of system performance.

- » The right offshore partner will provide metrics-based management for missioncritical applications and thus allow IT management the opportunity to have better visibility into improvement and costmanagement opportunities for these systems.

In other words, the benefits inherent to offshore IT outsourcing for general application management are enhanced and multiplied when applied to the broader scope and scale of mission-critical application systems.

Criteria for Taking Mission-Critical Application Management Offshore

How do you determine which application(s) could and should be migrated to an offshore environment?

Prior to considering an approach for identifying the specific applications that are appropriate for outsourcing to an offshore environment, it is worth considering the wider IT applications environment. It does not make sense to move the entire application management process to offshore. Activities that involve intense day-to-day user interaction, for example Level 1 help desk support and interaction with the functional owner for each application, should remain close to the user base, either on-site, off-site, or possibly near-shore. However, it does make sense to consider migrating Level 2 (issue analysis and resolution) and Level 3 (code changes)

Figure 2: Identification of Applications for Offshore Management

Characteristics of Mission-Critical Applications

- » Mature
- » Custom-developed
- » Mainframe, mid-range, client server, and eBusiness applications
- » Maintenance accounts for a significant portion of IT budget
- » Backlog due to low priority & difficult ROI justification
- » In-depth knowledge resides with limited employees
- » High dependency on system gurus
- » Generally not well-documented
- » Considered less desirable assignments for internal employees
- » Low end-user satisfaction with support
- » Difficult to justify replacement costs
- » Duplicate systems or overlap of system functions

support to an offshore environment since these activities do not generally require instant interaction with the functional owner or user base. In fact, Level 2 and Level 3 support activities are best performed by individuals who are dedicated to these tasks and not distracted by the interruptions that occur in the daily user work environment.

with this as a foundation for decision-making, it is necessary to review the application portfolio to determine which application(s) would gain the most benefit from migrating Level 2 and Level 3 support to offshore. Previously, this paper identified the general characteristics of mission-critical application systems. These same characteristics form the basis for identification of those applications that are potential candidates for application management in the offshore environment. See figure 2 for details.

Once the pool of potential applications has been identified, the following criteria are used to prioritize which application(s) will produce the greatest return by migrating the Level 2 and Level 3 functions to offshore:

- » The number of resources and percentage of IT budget dedicated to maintenance for each application
- » Applications with recurring problems that are not alleviated by quick fixes, indicating the need for root-cause analysis Significant or growing backlog of application issues or enhancement requests
- » A high or growing number of user-reported help desk issues that are due to lack of or misleading documentation satisfaction with existing support
- » Concerns regarding depth of skill sets or guru dependency
- » Plans to retire or migrate applications within the next 2 to 5 years

With this assessment those applications that produce the greatest benefits by outsourcing to a qualified offshore environment are identified.

Maintenance and support is the number one priority for the offshore partner, not distracted by other pressing IT issues

Offshore Partner Characteristics

While the benefits are clear, the advantages of moving mission-critical application maintenance offshore are not automatically achieved with every offshore provider. Historically, most offshore IT outsourcing firms have focused on new development projects. The offshore option in the IT services industry came into its own during the 1990s, when Year 2000 remediation and new development projects took center stage. Many of the industry's leading offshore providers – from pure-plays to the Big 5 – have developed their offshore solutions and processes around application development expertise and rapid delivery of new systems. These efforts are relatively freestanding and have few day-to-day emergencies.

In contrast, mission-critical application management demands a different mindset and management approach – one that is focused on the constant sense of urgency required to keep mission-critical application systems functioning at the highest level. An offshore provider with its roots in application maintenance is critical to delivering additional advantages to the business and significantly reducing the risks historically associated with offshore delivery.

Maintenance of business-critical applications, though not classified as one of the most glamorous jobs in IT, is one of the most challenging. These applications tend to support large, highly customized processes that require 100% uptime for hundreds of users. A provider

that is truly focused on application maintenance will deliver businesses benefit resulting from:

- » More mature knowledge transfer processes, as evidenced by certification at Level 5 of the Software Engineering Institute's Capability Maturity Model and ISO 9001
- » Proven models for real-time communication regarding mission-critical applications
- » Accountability for systems maintenance and productivity
- » Project management disciplines developed for maintenance programs
- » Successful and seamless distribution of work across global locations (on-site, off-site, nearshore, and offshore), as required by ongoing maintenance of business-critical applications

With this in mind, it is critical to further assess the proposed partner's capabilities that are specific to mission-critical application management. A successful application management environment is characterized by a team structure, objectives, methodologies, metrics, and mindset that are uniquely tuned to the support requirements for mission-critical applications.

A potential offshore IT outsourcing partner for application management services should be able to demonstrate the following:

- » Track record and passion for maintenance and support
- » Ability to improve productivity over time when supporting these types of systems
- » Demonstrated ability to consistently meet established service levels
- » Satisfaction record with current clients

- » Methodology for updating documentation and transferring knowledge from in-house experts to offshore team
- » Track record for retaining and transferring knowledge among the offshore resources, eliminating guru dependency
- » Buffer and bench strength policies that ensure ongoing commitment of qualified resources to each application management project
- » Effective on-site interface to manage high priority and/or critical production support issues
- » Ability to scale up/down to meet application management needs
- » Ability to create fluid on-site, off-site, near-shore, and offshore environments – dependent upon your support needs

Summary and Conclusion

The potential to save 30-50% on annual maintenance costs for mission-critical application systems is a compelling proposition in any economic environment.

When this savings benefit is further enhanced by the opportunity to concurrently improve the quality of support for mission-critical systems, then the opportunity becomes one that cannot be ignored. However, as with any outsourcing decision, the selection of the right partner is critical to realizing these benefits.

Excellence in application management can only be achieved if the offshore partner has made the

investments required to develop the methodologies, processes, and cultural mindset that bring cost benefit with reduced risk and the sense of urgency required for continuous improvement of maintenance and support services. By choosing an outsourcing partner

with these characteristics, an organization will be able to reap the tremendous, recurring benefits associated with offshore IT outsourcing support for mission-critical application systems.
